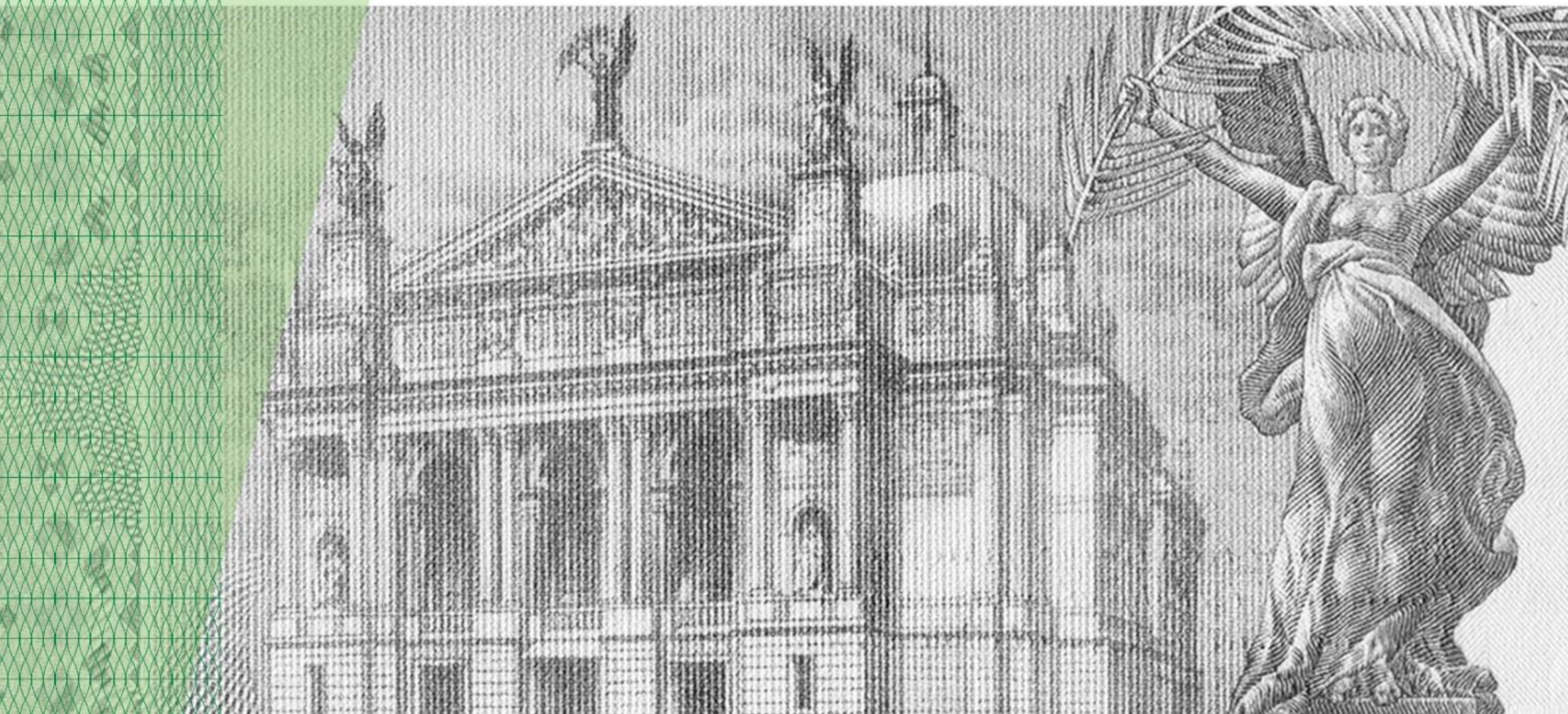
National Bank
of Ukraine

Inflation Report

January 2020



The Inflation Report reflects the opinion of the National Bank of Ukraine (NBU) regarding the current and future economic state of Ukraine with a focus on inflationary developments that form the basis for monetary policy decision-making. The NBU publishes the Inflation Report quarterly in accordance with the forecast cycle.

The primary objective of monetary policy is to achieve and maintain price stability in the country. Price stability implies a moderate increase in prices rather than their unchanged level. Low and stable inflation helps preserve the real value of income and savings of Ukrainian households, and enables entrepreneurs to make long-term investments in the domestic economy, fostering job creation. The NBU also promotes financial stability and sustainable economic growth unless it compromises the price stability objective.

To ensure price stability, the NBU applies the inflation targeting regime. This framework has the following features:

- A publicly declared inflation target and commitment to achieve it. Monetary policy aims to bring inflation to the medium-term inflation target of 5%. The NBU seeks to ensure that actual inflation does not deviate from this target by more than one percentage point in either direction. The main instrument through which the NBU influences inflation is the key policy rate.
- Reliance on the inflation forecast. In Ukraine, it takes between 9 and 18 months for a change in the NBU's key policy rate to have a major effect on inflation. Therefore, the NBU pursues a forward-looking policy that takes into account not so much the current inflation rate as the most likely future inflation developments. If inflation is projected to be higher than its target, the NBU raises the key policy rate to bring inflation down to the 5% target. And vice versa, if inflation is projected to be below its target, the NBU cuts the key policy rate.
- Open communications with the public. The transparent and predictable monetary policy of the NBU, which is achieved among other things by publishing this Inflation Report, enhances public confidence. Public confidence, in turn, is an important prerequisite for the effective management of inflation expectations and ensuring price stability.

The NBU Board decides on the key policy rate eight times a year, in line with a schedule it publishes in advance. The decisions the NBU Board makes in January, April, July, and October are based on new macroeconomic forecasts. At the remaining four meetings (taking place in March, June, September, and December), the NBU Board makes its interest rate decisions based on new economic developments in Ukraine and beyond that have emerged since the latest forecast.

The NBU Board announces its interest rate decision at a press briefing held on the same day at 2 p.m., after the NBU Board's monetary policy meeting. A week later, the NBU publishes the Inflation Report with a detailed macroeconomic analysis and outlook underlying its interest rate decisions. The Summary of the Discussion on the Key Policy Rate at the Monetary Policy Committee is published on the 11th day after the decision is made. In contrast to press releases on monetary policy decisions, which reflect the consensus position of the NBU Board, the summary shows depersonalized opinions of all MPC members on the monetary policy decision to be made and their positions. That includes not only the opinions expressed by the majority, but also dissenting views.

The analysis in the Inflation Report is based on the macroeconomic data available at the date of its preparation. Thus, for some indicators, the time horizon of the analysis may vary. The cut-off date for the data in this report is 31 January 2020.

The forecasts of inflation and other macroeconomic variables were prepared by the Monetary Policy and Economic Analysis Department and approved by the NBU Board at its monetary policy meeting on 30 January 2020[1].

Previous issues of the Inflation Report, the presentation of the Inflation Report, the forecast of the main macroeconomic indicators, and time series and data for tables and figures in the Inflation Report are available on the NBU website at the following link: https://bank.gov.ua/monetary/report.

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[1] NBU Board decision No. 77-D *On Approval of the Inflation Report* dated 30 January 2020.

Contents

Summary

Inflation pressures have decreased thanks to consistent monetary policy

In 2019, consumer inflation fell to a six-year low of 4.1% (versus 9.8% in 2018). The NBU thus achieved its medium-term inflation target of 5% ± 1 pp. This was due to lower underlying inflationary pressures, as reflected in the slowdown of core inflation (to 3.9% yoy). The fall in inflation to its target in 2019 was mainly the result of the NBU's consistent monetary policy, which aims to deliver price stability, and prudent fiscal policy.

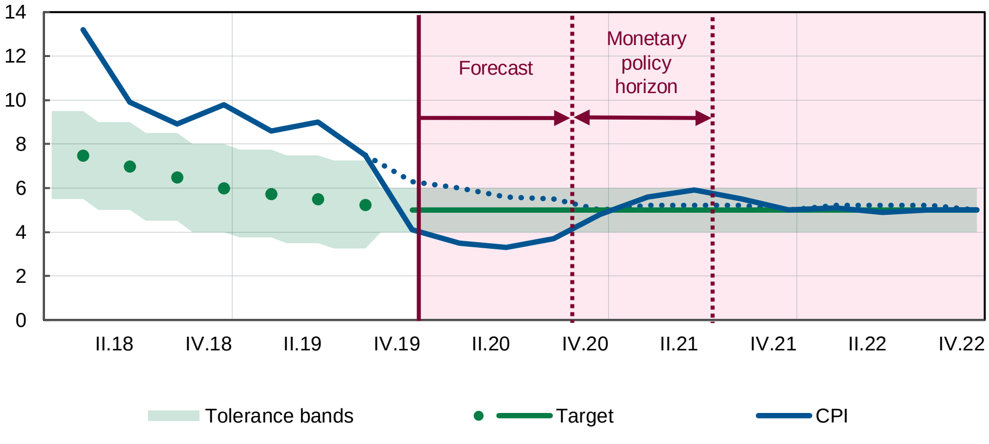
The key factor behind the rapid disinflation was the appreciation of the hryvnia, fueled by the surplus of foreign currency on the market that persisted throughout most of last year. The increase in foreign currency supply was in turn caused by exporters selling large amounts of their foreign currency revenues and foreign investors showing lively interest in hryvnia-denominated government bonds. In the wake of a long-running period of macroeconomic stability and attractive yields, in 2019 the portfolio of hryvnia-denominated domestic government debt securities held by nonresidents rose by USD 4.3 billion. On the other hand, higher productivity – especially in agriculture, leading to another record harvest of grain and oil crops – ensured high export proceeds. As global import prices decreased more than prices for exported goods, terms of trade improved, which also contributed to the growth in the foreign currency surplus in Ukraine.

Apart from the FX factor, the decline in inflation was also driven by an improvement in inflation expectations, lower fuel prices, and weaker pressure from the food supply and administered prices. However, consumer demand and rapid wage growth continued to put pressure on prices, reflected in a moderate slowdown in the growth of services prices.

Consumer inflation will return to the target range at the end of 2020 and remain at the level of 5% after that

According to the NBU's estimates, inflation continued to slow in January. Consumer inflation will stay below the 5% ± 1 pp target range throughout most of 2020. It will accelerate in Q4, to 4.8% in December, thus returning to its target range.

Figure 1[2]. CPI (eop, % yoy) and inflation targets



Source: SSSU, NBU staff estimates.

The effects of the hryvnia appreciation in 2019 will continue to be reflected in the prices of imported goods, and in those for products with a large share of imported inputs – this will also helpdecrease inflation expectations. Underlying inflationary pressures will remain weak: Core inflation will continue to slow, reaching 3.5% by the end of 2020. Continued relatively low global energy prices will limit rises in domestic fuel prices. In the absence of supply shocks, food price inflation will be subdued, owing to expected higher yields of fruit and vegetables. Only administered prices will grow somewhat faster, mainly due to excise taxes on tobacco products continuing to be adjusted to European levels. However, administered inflation will be restrained by the government's decisions to cut utility tariffs on the back of low energy prices.

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[2] Unless specified otherwise, the dashed line in the figures indicates the previous forecast.

Driven by the monetary policy easing, inflation in 2021–2022 will remain within the medium-term target of 5% ±1 pp. A continued, stable, low pace of inflation will be ensured also by:

- a prudent fiscal policy
- relatively low energy prices on the global markets
- the higher productivity of the Ukrainian economy.

The economy of Ukraine grew steadily in 2019

The NBU estimates real GDP growth in 2019 at 3.3% yoy, virtually flat compared to 2018. Major drivers of this growth were the pickup in private consumption on the back of higher wages and pensions, improved consumer sentiment, and rapid growth in investment. These, in turn, promoted growth in trade, transportation, construction, and in a number of services sectors. Another record harvest of grains and oilseeds made a significant contribution to the growth in GDP and exports. That said, the performance of industrial production was weak for the year as a whole due to the unfavorable external price environment, a decrease in price competitiveness driven by the stronger real effective exchange rate, and warm weather. Economic growth in 2019 spurred the demand for labor, which led to a decline in unemployment rate and an increase in the employment rate.

In 2019, the current account deficit narrowed substantially, to 0.7% of GDP. An important factor behind the decrease in the deficit was the compensation received by Naftogaz of Ukraine from Russian Gazprom under a ruling of the Stockholm arbitration court. However, apart from that, the current account deficit shrank due to the decreased trade deficit in goods, steady growth in services exports, and smaller amounts of repatriated dividends. Thanks to capital inflows to the public sector and increased borrowing by the real sector, gross international reserves in H2 2019 grew to the highest level since the end of 2012 (USD 25.3 billion or 3.8 months of future imports).

Economic growth in Ukraine will gradually accelerate to 4% in 2021–2022

Economic growth will accelerate to 3.5% in 2020 and 4% in the following years. The easing of monetary policy will contribute to this faster economic growth. Robust private consumption and investment will remain the main drivers of the growth. At the same time, the contribution of net exports to GDP will remain negative due to the real sector's considerable need for investment imports.

Real household income will grow at a fast pace, which will further narrow the wage gap with neighboring countries. This will continue to encourage Ukrainians to seek work in Ukraine rather than abroad.

Fiscal policy will be close to neutral over the forecast horizon, putting no pressure on inflation or economic growth. The general government will continue to run a deficit of about 2% of GDP annually. This deficit will be largely financed by the government issuing hryvnia securities, which will remain in demand with nonresidents. The ratio of public and publicly guaranteed debt to GDP will decrease over the entire forecast period, to below 50%, driven by sustained economic growth, low exchange rate volatility, and the persistence of the primary budget surplus. The currency composition of public debt will improve.

The current account deficit, as before, will remain sustainable in 2020–2022

Economic activity and global trade are expected to pick up in the coming years, as the United States and China reach agreement on trade. This will support global commodity prices for Ukrainian exporters. The current account deficit will range from 3% to 4% in 2020–2022. The widening of the deficit will be caused by large volumes of investment imports and decreased proceeds from gas transit. However, this will be offset by greater capital inflows to the private sector amid an improved investment climate.

The NBU is easing its monetary policy more quickly in order to maintain inflation at its 5% target, and to promote steady economic growth

The more pronounced reduction in inflationary pressures over the monetary policy horizon and the unchanged balance of risks has enabled the NBU Board to cut the key policy rate more quickly: in Q4 2019, the NBU Board decreased the key policy rate twice, by a total of 300 bp to 13.5%, and cut the rate by another 250 bp in January 2020. These decreases in the key policy rate, coupled with expectations of further cuts, reduced the yields of domestic government debt securities and most interest rates for banks' clients.

In light of the more rapid improvement in Ukraine's macroeconomic conditions, the NBU now expects to cut the key policy rate more quickly than it anticipated earlier. Given low inflation environment over 2020 and aiming to support economic growth, the key policy rate could be cut to 7% by late 2020. It will remain at this level beyond 2020, if the inflation rate stabilizes close to its target of 5%. The NBU estimates the new neutral level of the key policy rate to be exactly 7%. The most pronounced cuts in the key policy rate are expected to take place in H1 of the current year. This will decrease loan rates for businesses and households, thus stimulating business activity. On the other hand, a more significant cut in the key policy rate would mean there was a risk of inflation overshooting the upper band of the target range in 2021.

The real effective exchange rate of the hryvnia will be relatively stable in 2020–2022, on the back of low inflationary pressures and an eased monetary policy.

Further cooperation with the IMF under a new program remains the underlying assumption of the macroeconomic forecast

The NBU expects that a new cooperation program with the IMF will be signed in the coming months, after parliament approves relevant draft laws. The new cooperation program, official borrowing, and nonresidents' continued interest in domestic government debt securities will sustain an annual rise in international reserves, despite Ukraine going through a period of peak external public debt repayments. International reserves will exceed USD 29 billion in 2020, and will continue to rise in 2021–2022.

The key risk to the forecast is that there is a delay in entering into a new cooperation program with the IMF

Risks to macrofinancial stability also remain. These risks could mainly arise from Ukrainian court rulings on the responsibility and liability of the former owners of insolvent banks to the state.

There are other significant risks. They include:

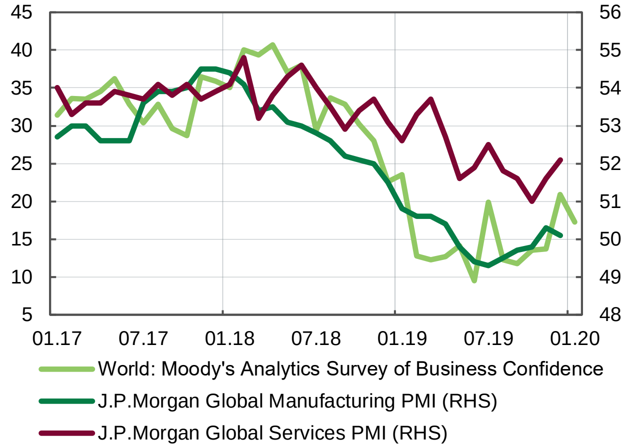
- the continued cooling of the global economy and a further deterioration in terms of trade, including due to spreading of the coronavirus
- an escalation of the military conflict in eastern Ukraine and new trade restrictions introduced by Russia
- a drop in the harvest of grain, fruit and vegetable crops in Ukraine in the wake of unfavorable weather
- the higher volatility of global food prices, driven by global climate change
- a decrease in foreign capital inflows.

If materialized, these risks, both internal and external, could worsen exchange rate and inflation expectations, and make it harder for Ukraine to access the international capital markets in order to repay the heavy debt load of the coming years. As a result, the key policy rate could be cut to 7% more slowly than envisaged in the baseline scenario. Conversely, the faster implementation of reforms, coupled with significant investment inflows, could enable the NBU to cut the key policy rate more quickly.

Part 1. External Environment

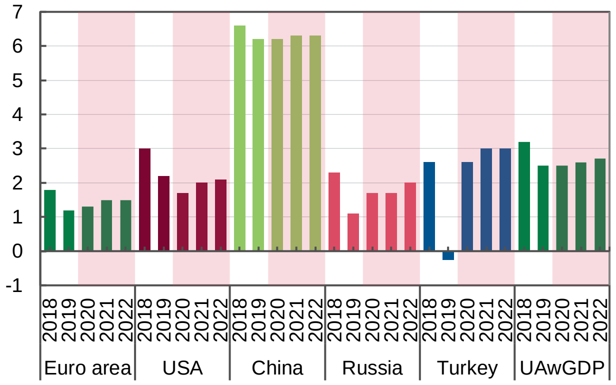
- There were signs of a pickup in economic activity and global trade in late 2019, mainly driven by progress in trade negotiations between the United States and China and expectations of a trade agreement between the countries.
- The market's optimistic expectations buoyed global commodity prices. Against the backdrop of loose global financial conditions, investors remained interested in the financial assets of developing markets.
- A gradual acceleration of growth in the global economy is expected in the coming years, thanks to eased trade tensions and benign financial conditions. However, the growth will generally remain moderate.

Figure 1.1. Global PMI and World Business Confidence



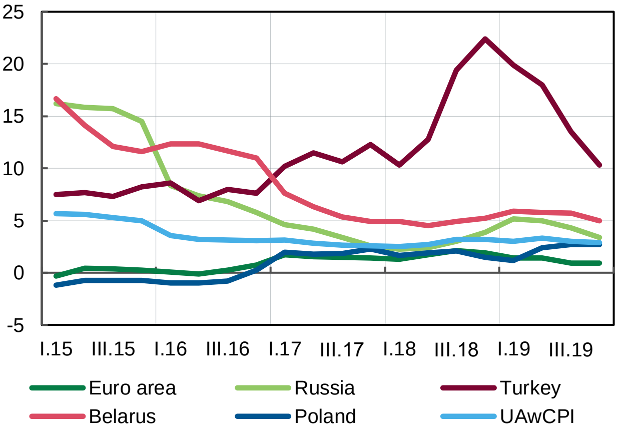
Source: IHS Markit, Moody's.

Figure 1.2. Real GDP of selected countries and Weighted Average of annual GDP growth of Ukraine's MTP countries (UAwGDP), % yoy



Source: National statistical offices, NBU staff estimates.

Figure 1.3. Consumer Price Indexes of selected Ukraine's MTP countries and Weighted Average of Ukraine's MTP countries' CPI (UAwCPI), % yoy



Source: National statistical agencies, NBU staff estimates.

Growth in the economies of trading partners will accelerate gradually

In October 2019, the United States suspended the implementation of additional tariffs on imports from China, which led China in response to partially resume purchases of U.S. agricultural products. The progress in negotiations and announcements made by top officials from both countries encouraged optimism that the United States and China would sign a trade agreement, and a deal was indeed signed in early 2020. The signing of the trade deal prompted an increase in the global business confidence index. A rise in the Global Composite PMI also pointed to signs of a pickup in the global economy.

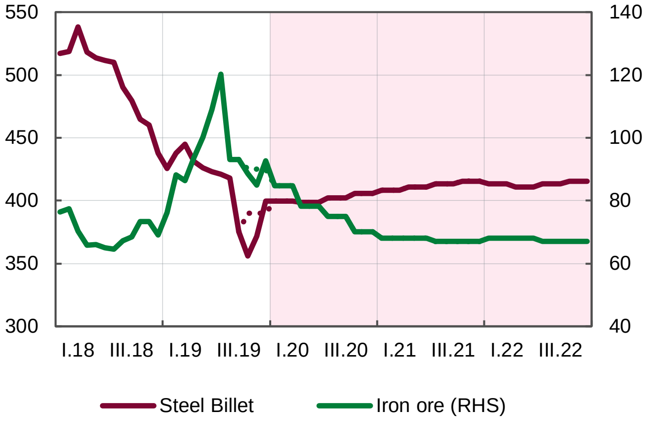
Global economic growth will accelerate gradually, on the back of the recovery in the euro area and in some EMs (Turkey, India, and Russia). The economies of the CEE countries will continue to grow at a steady pace. Alongside eased trade tensions, economic growth will be supported by favorable financial conditions created by the loose monetary policies of leading central banks. However, growth in the global economy will generally remain modest, as some protectionist measures have remained in place, despite the U.S.-China trade agreement had been signed.

U.S. economic growth slowed as expected in Q3 2019. Private investment declined for the first time in three years. Nevertheless, growth was propped up by sustained consumption, fueled by low unemployment. Favorable financial conditions and a stable labor market will keep economic growth close to the growth of potential GDP.

Growth in the euro area remained stable at the level of the previous quarter. Despite relatively steady growth in the services sector, growth in industrial production slowed further due to weak global trade and a further decline in the automotive industry. As a result, inflation remained below its target. The economy of the euro area is expected to recover gradually over the forecast horizon thanks to accommodative monetary and fiscal policies.

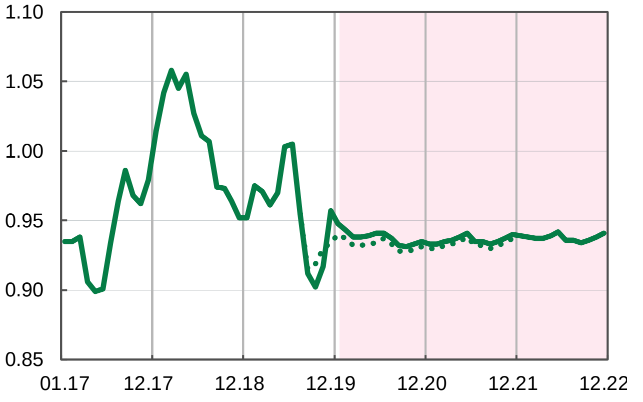
The majority of emerging market economies that are main trading partners of Ukraine showed resilience to the geo-economic developments. In particular, the CEE economies grew at a steady pace, due to, among other things, state

Figure 1.4. World price of ferrous metals and iron ore*, USD/MT, quarterly average



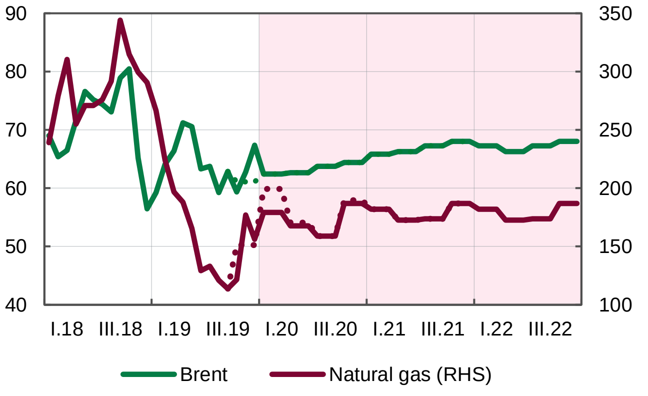
* Steel Billet Exp FOB Ukraine and China import Iron Ore Fines 62% FE spot (CFR Tianjin port).
Source: Refinitiv Datastream, NBU staff estimates.

Figure 1.5. External Commodity Price Index (ECPI), Dec 2004 = 1



Source: NBU staff estimates.

Figure 1.6. World crude oil prices (USD/bbl) and German Hub natural gas prices (USD/kcm)



Source: Refinitiv Datastream, NBU staff estimates.

social support and investment. These factors will continue to fuel growth in the CEE economies.[3]

The prices of Ukrainian exports will stay almost flat, while import prices will grow at a moderate pace

The unexpected announcement made by the U.S. president in early August 2019 about the imposition of additional tariffs on Chinese products and the subsequent implementation of these tariffs in early September caused a sharp decline in global trade. Most global commodity markets saw a steep fall in prices due to lower demand. The metals industry market was hit particularly hard in view of its high supply. As a result, prices for semi-finished steel products sank deeper, by 18%–20% yoy in September–October. At the same time, there was an upward price correction late in the year thanks to new measures taken by the government of China to stimulate the economy, and the progress made in trade negotiations with the United States. The gradual recovery in the global economy will spur steel demand growth, thus supporting prices. Relatively high prices of iron ore, especially high-quality iron ore, will be an additional factor, notwithstanding an expected downward trend in these prices. The latter can be explained by a gradual increase in supply of iron ore as Australia launches new capacity, Brazil resumes production, and a giant mine is put into operation in Guinea.

Prices of grains, particularly wheat and corn, remained relatively low due to a good harvest. They grew moderately at the end of the year on the back of higher demand from some Middle East countries and New Zealand, and a further increase in tariffs on grain exports announced by the government of Argentina. Despite the deterioration of the situation in Australia, the record global wheat harvest of 2019/2020 MY will weigh on prices not only in the current marketing year, but also in the next one because of large carry-over stocks. Prices will be close to current levels due to high demand. In contrast, the supply of corn will increase more slowly, especially supply from the United States and Mexico, which will support prices for this type of grain.

Overall in 2019, the prices of Ukraine's main export goods were lower year-on-year and are projected to remain close to their current levels over the forecast horizon.

In Q4 2019, global energy prices, particularly prices for crude oil and natural gas, grew on expectations of higher demand due to expectations of a trade agreement between the United States and China. The extension of OPEC+ agreement and seasonal temperature fluctuations were additional factors. Oil prices will grow during the next periods due to gradually rising demand and the compliance with the OPEC+ agreement. However, the price growth will remain moderate owing to increased production in the United States. The H1 2020 prices for natural gas were revised down, as the risk of a halt of Russian gas transit via the territory of Ukraine did not materialize thanks to agreement being reached by the two countries. Prices will follow a slightly ascending path, despite the expected increase in production in the United States and

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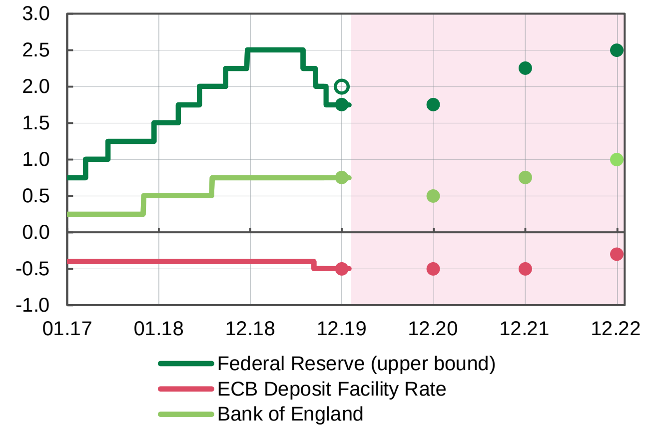
[3] Unless specified otherwise, a dashed line in the figures indicates the previous forecast.

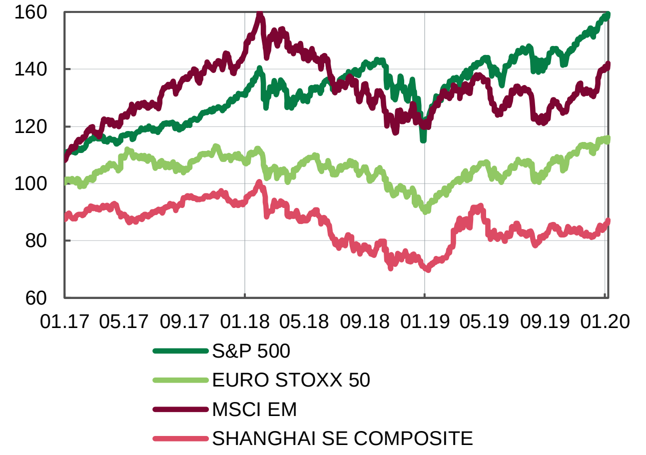
Figure 1.7. **Key policy rates of major central banks and ECB deposit facility rate*, %**



*Filled points refer to the current forecast, unfilled points - to the previous one.

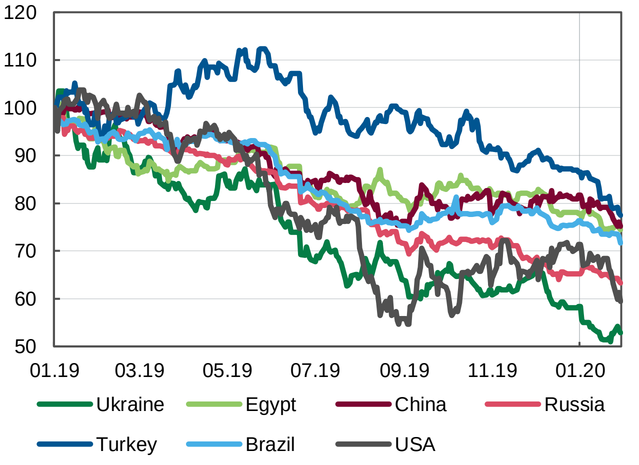
Source: Official web-pages of central banks, NBU staff estimates.

Figure 1.8. **Global equity benchmarks, 01 Jan 2016 = 100**



Source: Refinitiv Datastream.

Figure 1.9. **J.P.Morgan EMBI+, 01 Jan 2019=100**



Source: Bloomberg.

Russia. The price growth will be supported by global demand for gas increasing faster than demand for oil, as gas is viewed as a more environmentally friendly type of fuel.

Global financial conditions will remain favorable for emerging markets

General optimism regarding the U.S.-China trade deal and monetary policy easing by the leading central banks, particularly the Fed and the ECB, supported investor interest in emerging market assets. In October, the Fed decided in favor of a third consecutive cut in the federal funds rate amid contained inflationary pressures and a slowdown in the global economy. The ECB resumed the buyback of securities under its quantitative easing program, starting on 1 November 2019 with an indefinite term. Monthly buybacks were set at EUR 20 billion.

Central banks in some emerging markets also eased their monetary policies. The central banks of Russia, Belarus, Turkey, Chile, Mexico, and Brazil reduced their base rates on the back of weaker inflationary pressures and slower economic growth.

Risk premiums for sovereign borrowers dropped further in Q4 2019. Still, sovereign bond yields remained attractive, encouraging sizeable capital inflows to emerging market assets. Moreover, even highest-risk countries such as Lebanon, Ecuador, and Costa Rica accessed the bond market. As a result, the total debt owed by emerging markets hit a new record of USD 71.4 trillion or 220% of GDP (preliminary estimates by the IIF). The emerging markets' debt has risen to 28.5% of global debt.

Several important geopolitical and social events marked the beginning of 2020 – namely, an escalation of the situation in the Middle East and the rapid spread of atypical pneumonia (coronavirus) in China and across the globe. The latter triggered temporary panic on the stock markets due to the likelihood of a greater economic slowdown in China. However, aside from a plunge in Chinese stock indices, the assets of other emerging markets are demonstrating resilience, and investors have retained their interest in them (read more in Box 6 *Risks to the Global Economy Posed by the Spread of the Coronavirus* on page 51).

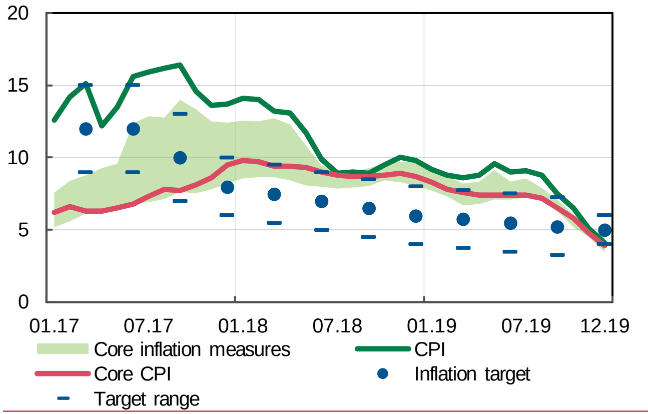
The leading central banks will pursue loose monetary policies over the forecast horizon due to the relatively weak macroeconomic environment. The Fed and the ECB are expected to normalize their monetary policies no sooner than in 2021. As a result, financial conditions will remain favorable for emerging markets.

Part 2. Economy of Ukraine: Current Trends

2.1. Inflation Developments

- Consumer inflation decelerated to 4.1% in 2019, reaching its lowest level since April 2014. As a result, the NBU achieved its medium-term inflation target of 5% ± 1 pp at the end of last year.
- The main factors behind the slowdown in the CPI growth were the stronger hryvnia, lower global energy prices, and eased pressures from food product supply and administered prices.

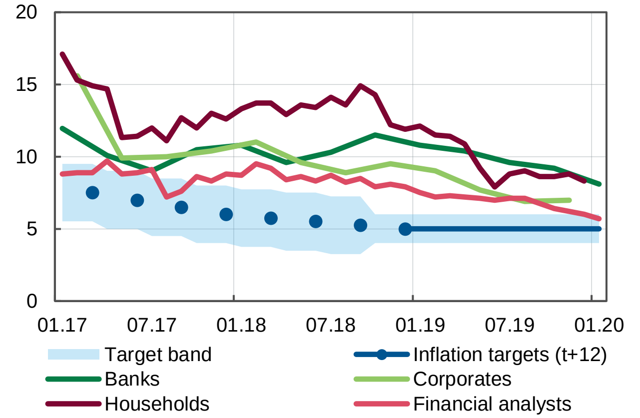
Figure 2.1.1. Underlying inflation trends*, % yoy



* Read more in the January 2017 Inflation Report (pages 20–21).

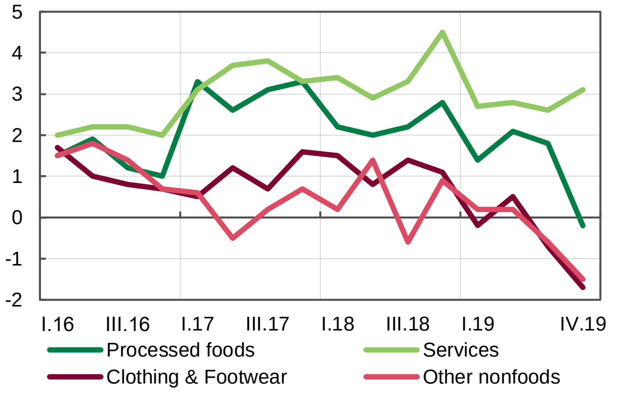
Source: NBU staff estimates.

Figure 2.1.2. 12-month-ahead inflation expectations and inflation targets, %



Source: NBU, GfK Ukraine.

Figure 2.1.3. Main components of core CPI, sa, % qoq



Source: SSSU, NBU staff estimates.

Underlying inflationary pressures eased, primarily owing to the strengthening of the hryvnia

Consumer inflation entered the target range of 5% ± 1 pp in November 2019 and came close to its lower bound in December. Core inflation also decelerated (to 3.9% yoy). Inflation declining to its target in 2019 was primarily the outcome the NBU's consistent monetary policy, which is aimed at achieving price stability, and a prudent fiscal policy.

The key contributor to the considerably slower growth in consumer prices was the hryvnia appreciation. As a result, in Q4 2019, the prices of nonfood products, represented mainly by imported products or products with a large share of imported inputs, decreased by 2.2% yoy in December (read more about the impact on prices of the hryvnia strengthening in the Focus *Macroeconomic Effects of Hryvnia Appreciation* on page 33).

The slowdown in core inflation was also driven by improved inflation expectations, which declined across all groups of respondents. That said, the expectations of financial analysts reached the upper bound of the NBU's target range.

Sustained consumer demand and rising labor costs slowed the pace of disinflation

Rapidly growing wages remained a major factor behind the rise in prices, in terms of both production costs and consumer demand. While the impact of the exchange rate factor on consumer prices decreased substantially,[4] respondent companies noted that labor costs had more influence on their prices. In addition, in Q4 companies reported the heightened importance of the factor of "demand for your products," underpinned by higher household income.

Pressure from the steady growth in consumption and higher production costs was reflected in only a moderate slowdown in the growth of market services prices and administered services prices. The prices of these components grew considerably faster compared to other components. In particular, growth rates of market services prices remained two-digit (11.6% yoy in December). Among these services, the fastest growth was seen in prices of mobile communications, cable television, notaries, hairdressers, and financial and insurance services. Administered services prices were also increased with the aim of bringing them to an economically feasible level – these included the prices of

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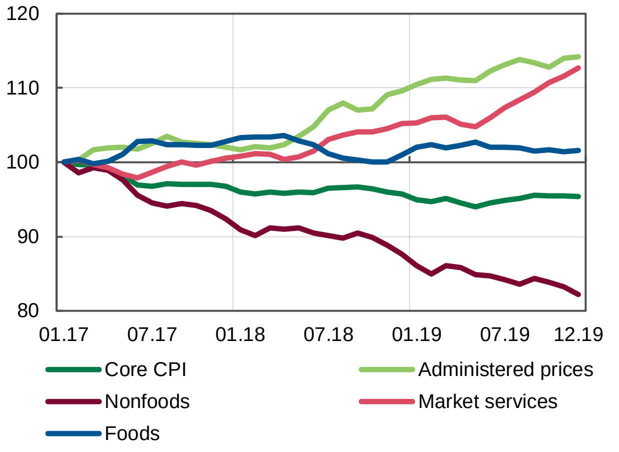
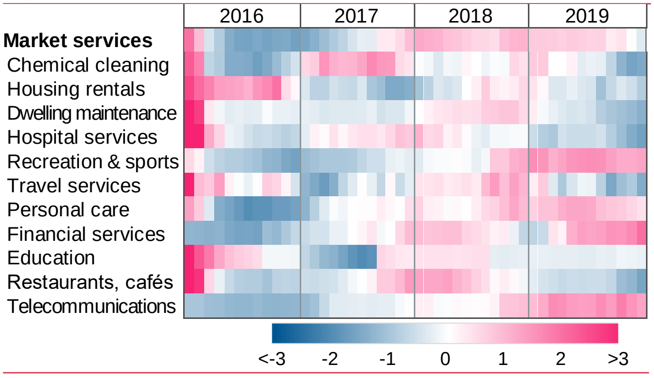
[4] As seen from the results of the business outlook survey, the perceived impact of the exchange rate on consumer prices of goods and services weakened markedly in Q4 2019, to 46.6%, versus 79.3% in Q4 2018.

Figure 2.1.4. **CPI-deflated inflation components , 01.2017=100**



Source: SSSU, NBU staff estimates.

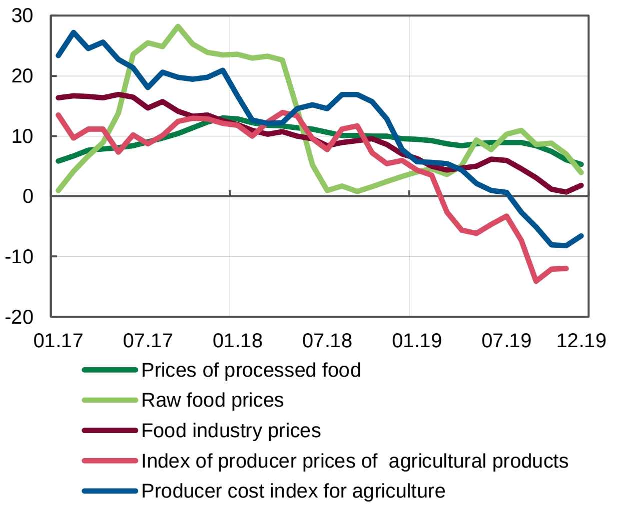
Figure 2.1.5. **Normalized services inflation heat map* in Ukraine, %**



* A cool blue color indicates that prices for this type of service were rising at a slower pace than the normalized average, while warm red indicates faster growth. Data are normalized by subtracting the mean change and dividing by standard deviation, excluding data for 2015. See more at stlouisfed.org.

Source: SSSU, NBU staff estimates.

Figure 2.1.6. **Raw and processed food prices in food industry and agricultural production, % yoy**



Source: SSSU, NBU staff estimates.

commuter train fares, pre-school education, landline telephone services, and postal services. Moreover, the prices of postal and communication services for businesses grew somewhat faster (18.7% in Q4).

Supply factors put much weaker pressure on prices in Q4 2019

The growth in raw food prices decelerated sharply, reaching 3.9% yoy in December. Vegetable prices contributed the most to the slowdown in inflation: vegetable prices decreased by 0.8% yoy (following growth of 28% yoy in September). In particular, a good harvest of most vegetables and relatively warm weather in November–December drove a decline in prices of cabbage, carrots, onions, tomatoes, eggplants, bell peppers, and beetroot. Potato prices grew more slowly.

Thanks to the ample grain harvest, producer prices of crop farming products were lower than a year ago (down by 14.5% yoy in November). This resulted in a drop in prices of flour and some cereals. Coupled with lower energy prices, the decrease in flour prices led to slower growth in producer and retail prices of bread. The decline in feed prices, stronger competition in external markets, and growth in domestic production resulted in lower prices for poultry products. The prices of dairy products also grew at a slower pace, but were higher than in neighboring countries. Further declines in dairy prices were restrained by a deeper fall in domestic milk production.

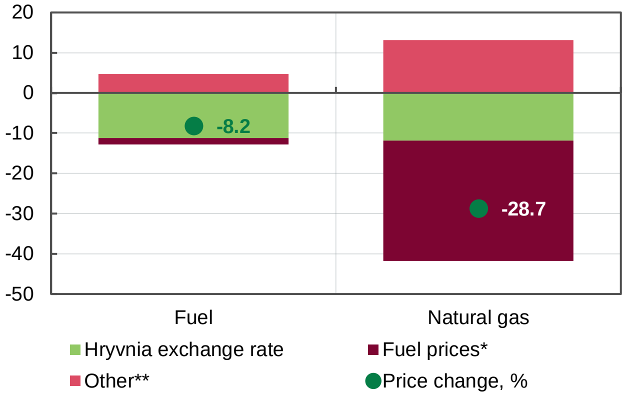
A drop in global commodity and energy prices contributed to the decrease in inflationary pressures

The year-on-year decline in fuel prices remained at the level of the previous quarter (8.2%). The waning effect of the drop in global crude oil prices was offset by a further strengthening of the hryvnia and the decreased contribution of trade markups and other costs.

Instead, natural gas prices for households and industrial producers fell substantially lower (by 28.7% yoy and 36%–37% yoy in December, respectively). The decrease in gas prices continued to be driven mainly by the year-on-year decline in global natural gas prices, amplified by the hryvnia strengthening. Prices for domestically produced crude oil and natural gas also continued to decline. The lower prices of hydrocarbons (both domestic and imported) influenced subsequent links in the production chain: the prices of chemicals, coke, and petroleum products decreased further.

Electricity prices for industrial producers also put less pressure on prices, as day-ahead and intraday prices have been on a decline since July 2019 (prices were down by 24.8% in December compared to July, when the new electricity market was introduced). This was due to increased competition and excess capacity that built up because of the warm weather. Electricity prices for households remained unchanged from the start of the year, among other things due to the introduction of special obligations on electricity market participants with regard to mandatory sales of a part of the

Figure 2.1.7. Contributions to the annual change in energy prices (December 2019), pp

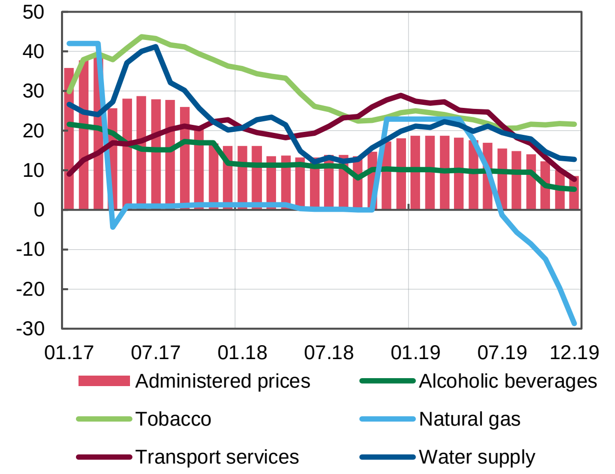


* Fuel prices refer to global oil prices lagged by 1month; natural gas prices refer to import prices lagged by 1 month, according to SFS data.

** For fuels, "other" includes administrative costs, logistics services, trade margins, etc. For natural gas, "other" refers to the PSO gas price restrictions effective from 01.11.18 to 01.04.2019.

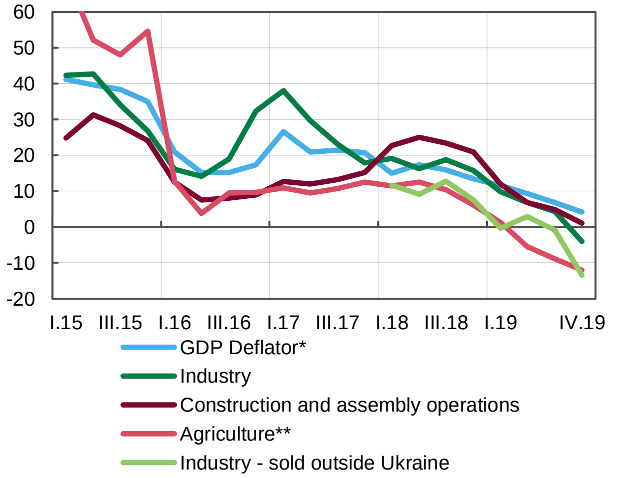
Source: Naftogaz of Ukraine, Refinitiv Datastream, SSSU, SFS, Ministry for Development of Economy, Trade and Agriculture, NBU staff estimates.

Figure 2.1.8. Components of administered price index, % yoy



Source: SSSU.

Figure 2.1.9. Other inflation measures, quarterly averages, % yoy



* Data for Q4 2019 represent NBU staff estimates.
** Data for Q4 2019 cover two months.
Source: SSSU.

electricity generated at nuclear power plants and hydroelectric power plants, effective until 31 December 2020.

Most other administered prices grew at a slower pace (alcoholic beverages, cold and hot water supply, sewage, heating, etc.). The prices of tobacco products were an exception: their growth rates remained high due to increases in excise taxes and lower domestic supply.

In line with the global price trends for energy and goods that Ukraine exports, and the strengthening of the hryvnia, the prices of industrial products that are sold outside Ukraine decreased further (14.4% yoy). Prices for domestically sold mining products and metals also declined. In addition, the business outlook survey showed that the selling prices of goods and services were less affected by such factors as prices for raw materials and energy. Overall, producer prices dropped by 7.4% yoy.

The NBU expects that the GDP deflator will continue to slow in Q4 2019, on the back of weaker inflationary pressures in most other sectors of the economy.

Box 1. Inflation Forecast Assessment

In its macroeconomic forecast of January 2019, the NBU projected that a tight monetary policy would help curb consumer inflation. However, because of the influence of a number of inflationary factors, the central bank expected inflation to exceed the target range throughout the year, and decelerate to 6.3% yoy in December 2019. The actual inflation through the end of August was slightly higher than the trajectory foreseen by the NBU in its January forecast. However, at the end of the year inflation slowed more rapidly than projected. In addition to the expected waning of pro-inflationary factors in Q4 2019, a number of powerful disinflationary factors materialized in H2 – namely, the record harvest of grains and oilseeds, foreign investors' reassessment of the risk of investing in Ukraine, which channeled large inflows of debt capital into the public and private sectors, and a deepening of the fall in global energy prices. As a result, inflation had already reached the 5% target in November 2019, and had come close to the lower bound of the 5% ± 1 pp target range by the end of the year (4.1% yoy).

The NBU's macroeconomic forecast, developed in early 2019, was based on a rather conservative underlying assumptions. In particular, the NBU assumed a much higher risk premium due to political uncertainty, given that it was a year of presidential and parliamentary elections. Among other things, this was reflected in elevated expectations of inflation and exchange rate depreciation. The NBU also expected slightly lower harvests of grains and oilseeds following the record ones of 2018. External environment assumptions included higher inflation in Ukraine’s MTP countries and higher energy prices – namely, the prices of crude oil and natural gas (Table 1). In addition, a reduced supply of certain raw foods (apples, borshch vegetables, etc.), caused by a smaller harvest, put pressure on prices at the start of the year. This was one of the reasons why actual inflation in February–August 2019 exceeded the trajectory of the January forecast (Figure 1).

Table 1. Deviations from selected assumptions made in the NBU forecast (January 2019)

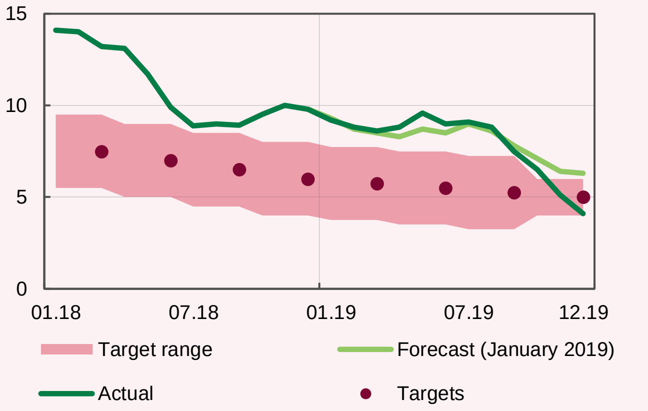
Variable	Forecast	Actual
Brent, USD/bbl (annual average)	66.8	64.2
Price of imported natural gas, USD/kcm (annual average)	287	195
CPI in the Euro area, % yoy	1.7	1.3
Risk premium for Ukraine*, %	7.6	5.7
Cereal harvest, m t	66	75.1
Sunflower harvest, m t	13	15.3
Real wages, % yoy	7.0	9.8
Hryvnia NEER (annual average),% yoy	1.8	10.8
Changes in electricity tariffs for households,% yoy	25.0	0

* Difference between yields of sovereign state euro-bonds denominated in US dollars and 10Y US TreasuriesДжерело: розрахунки НБУ.

Source: NBU staff estimates.

On the other hand, a number of disinflationary factors materialized throughout the year, especially in H2. First, Ukraine had another record harvest of grains and oilseeds, which supported export growth, even in the face of a less benign external price environment. Second, global energy prices dropped significantly, especially natural gas prices. On the European market, gas prices fell sharply due to several factors, including an increase in supply from the Unites States and Russia, and the warm winter of 2018/2019 (read more in Box 1 *Pricing on the European Natural Gas Market and the Link to Oil Prices* in the October 2019 Inflation Report, page 10).

Figure 1. Inflation trajectory according to the NBU forecast for January 2019 and actual dynamics of consumer inflation, % yoy



Source: SSSU, NBU staff estimates.

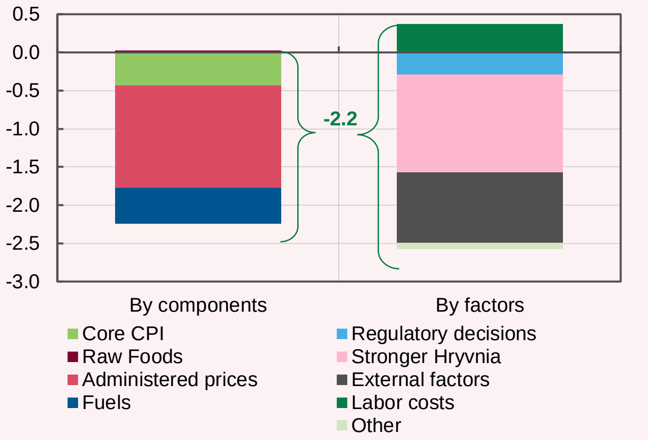
Third, against the prolonged macroeconomic stability, foreign investors substantially revised the risks of investing in Ukrainian securities (both government and corporate securities), despite there being presidential and parliamentary elections and large payments on external debt during the year. This was reflected in a lower risk premium on Ukraine's sovereign Eurobonds, upgraded sovereign ratings, and large borrowings by the private sector in H2 (read more in Section 2.5 *Balance of Payments* on page 25). With attractive yields on hryvnia securities amid underinvestment in Ukraine compared to other EMs, an improvement in global financial conditions, and simplified access to the Ukrainian securities market, this led to a sharp increase in foreign investors' interest in hryvnia financial instruments. Combined, all of these factors played an important role in inflation coming into its target range a quarter earlier than the NBU had expected at the start of last year.

Actual year-end inflation deviated from the NBU's January 2019 forecast by 2.2 pp. The strengthening of the hryvnia contributed to a more substantial slowdown in the core CPI, primarily due to lower prices for nonfood goods and processed foods that are mainly represented by imports or that have a high share of imported inputs.

A decrease in global energy prices, along with the stronger hryvnia and new approaches to calculating utility tariffs for households pushed natural gas rates for households down by

28.7% yoy in December, while the NBU had expected an increase of 15.2% yoy at the start of the year. As a result, the contribution of the gas price factor (together with prices for central heating and hot water) to the deviation from the inflation forecast was -1 pp. Another -0.2 pp of the deviation from the forecast was attributed to the unchanged electricity prices for households. Consequently, the actual growth in administered prices was slower by 5 pp compared to the forecast, developed in January 2019.

Figure 2. Annual CPI Inflation Forecast Error, pp



Source: NBU staff estimates.

In addition, below-forecast global oil prices, coupled with the stronger hryvnia, led fuel prices contributing to the deviation from the forecast (by -0.5 pp).

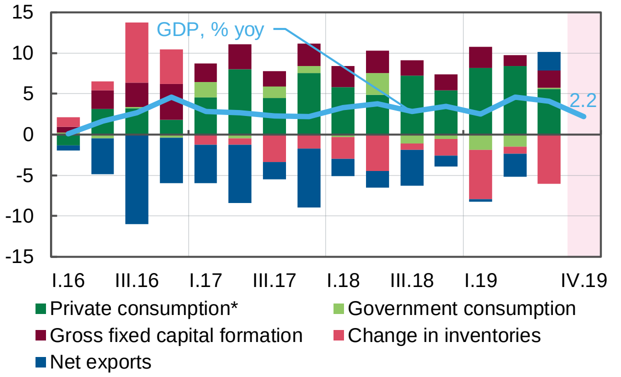
On the other hand, as expected by the NBU, the pressure from wage growth and robust consumer demand remained the main pro-inflationary factor. The contribution of this factor turned out to be even stronger than forecast, which was reflected primarily in faster growth of services prices.

The NBU refrained from easing monetary policy rapidly in early 2019 given the high risks to the economy of Ukraine stemming from geopolitical risks, delays to cooperation with the IMF, presidential and parliamentary elections, and court decisions bearing potential threats to financial stability. However, in April 2019, even though actual inflation was still above the forecast, the NBU announced the start of an easing cycle. In Q4, the central bank reduced the rate even faster than forecast. As the impact of monetary policy on the economy has a lag of 9–18 months (read more in Box 4 *The Quarterly Projections Model to Guide Monetary Policy Decisions* on page 43), this monetary policy easing did not offset the disinflationary factors by the end of the year, so their effect will last into 2020. The NBU will continue its policy aimed at keeping inflation close to its 5% target.

2.2. Demand and Output

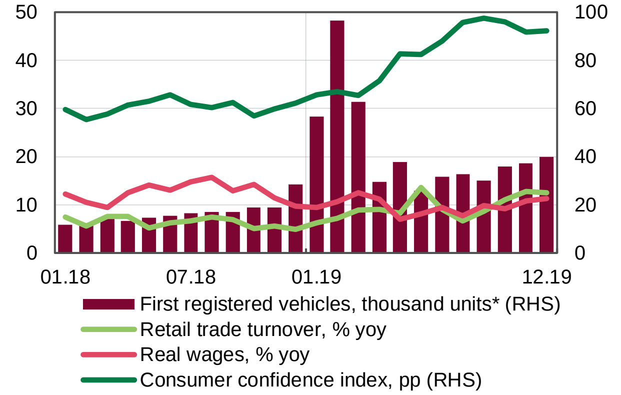
- In 2019, the Ukrainian economy grew at a steady pace, driven primarily by a pickup in private consumption and strong investment growth. This was reflected in growth in trade, transportation, and construction, and in a number of services sectors.
- Another record harvest of grains and oilseeds was a major factor behind the growth in the GVA of agriculture and an increase in exports in Q2 and Q3.
- In Q4 growth slowed due to the statistical effect of faster harvesting in previous periods, as well as the weak performance of the industrial sector.

Figure 2.2.1. **Contributions to annual GDP growth by final use, pp**



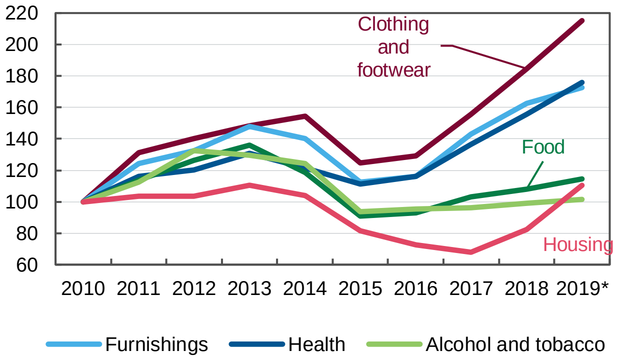
* Including non-profit institutions serving households.
Source: SSSU, NBU staff estimates.

Figure 2.2.2. **Leading indicators of private consumption**



* Calculated as the sum of new and used cars.
Source: SSSU, Ukravtoprom, NBU staff estimates.

Figure 2.2.3. **Real final consumption expenditure of households, 2010=100**



Source: SSSU, NBU staff estimates.

Ukraine's economy grew at a steady pace thanks to a pickup in private consumption and…

The NBU estimates real GDP growth in 2019 at 3.3% yoy, virtually unchanged from 2018. By final use categories, private consumption, which grew at an accelerated pace of 10.3% yoy in January–September 2019 (versus 8.9% yoy in the same period of 2018) made the largest positive contribution to GDP growth[5]. The available indicators such as significantly increased household income (read more in section 2.3. *Labor Market and Household Income* on page 18) and strong consumer confidence pointed to a continued acceleration of growth in private consumption in Q4.[6]

Households spent more both on consumer staples (food), and on the goods and services for which the propensity to consume rises in line with income growth (clothing and footwear, recreational and cultural services, restaurants and hotels, etc.). Spending on communication services also increased due to the expansion of 4G mobile network coverage. Healthcare expenditure grew at a steady pace, partly as a result of the transformation of the public healthcare system, an increase in the number of private healthcare institutions. Reflecting the pickup in private consumption, a significant contribution to real GDP growth in 2019 came from trade, transportation, and a number of services sectors (healthcare, information and communication services).

The notable feature of 2019 was the introduction of subsidy monetization at the start of the year, which also bolstered growth in household consumer spending[7] and led to a noticeable increase in the share of household spending on utilities. On the other hand, it caused a reduction in general government consumption expenditures in H1 (primarily individual consumption expenditures). Government spending was supported by collective consumption expenditures from the budget (on cultural and physical development, defense and public order, economic activity, etc.).

… relatively fast investment growth

Investment growth in 2019 was supported by high business expectations,[8] the improved financial performance of companies, and the accelerated implementation of

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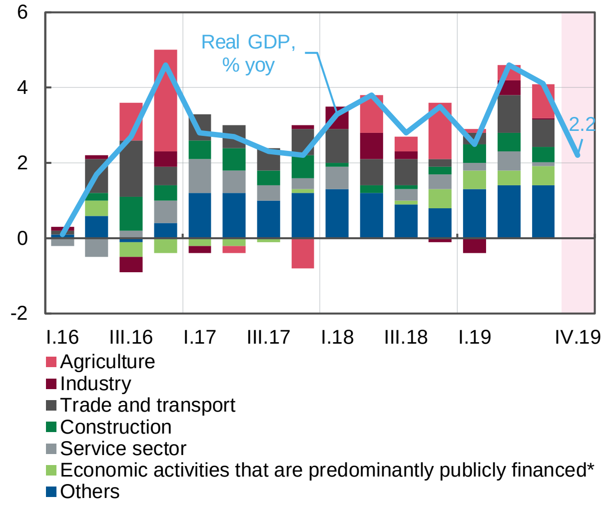
[6] According to Info Sapiens, the annual average consumer confidence index reached a 6-year maximum in 2019.
[7] The subsidy monetization envisages accounting the monetary transfers as consumer spending by households, but not as expenditures of the government.
[8] The business outlook index averaged 116.2% in 2019.

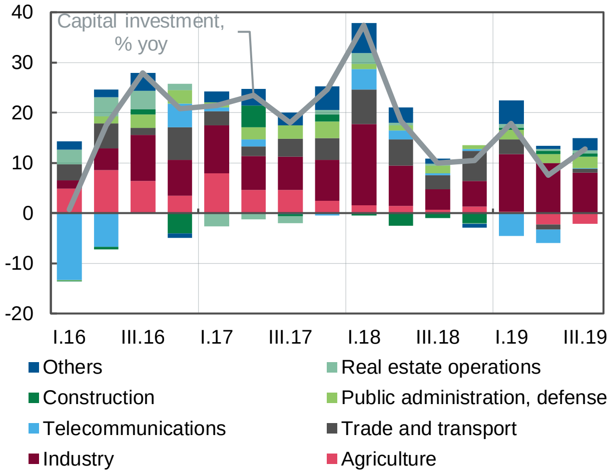
Figure 2.2.4. Main sectors' contribution to the annual percent change in real GDP, pp



* Including professional, scientific and technical activities; administrative and support service activities; public administration and defence, compulsory social security; education; human health and social work activities; arts, entertainment and recreation.

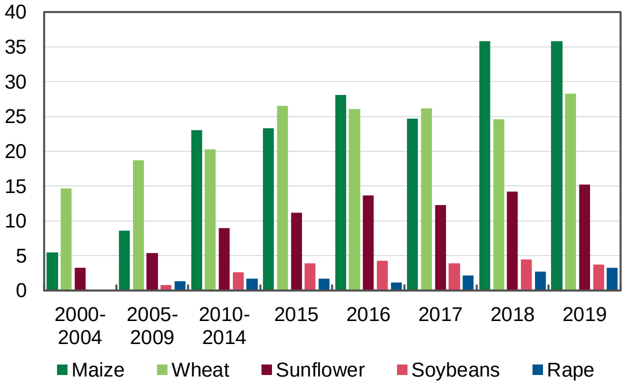
Source: SSSU, NBU staff estimates.

Figure 2.2.5. Contributions to annual growth rate of capital investment, pp



Source: SSSU, NBU staff estimates.

Figure 2.2.6. Oilseed and grain production, million tons*



* Period averages from 2000 till 2014.

Source: SSSU, NBU staff estimates.

renewable energy projects,[9] the latter being driven by tax incentives among other factors. In addition to the construction of renewable energy facilities and large-scale modernization work at industrial companies, 2019 also saw projects implemented in trade (the construction of shopping centers), infrastructure development (construction and repair of roads), healthcare, and restaurant services. The high investment demand led to continued rapid growth in the GVA of construction.

Companies' own funds remained the main source of investment financing. In January–September 2019, the pre-tax profit of large and medium-sized companies grew by 28.9% yoy, while corporate losses decreased by 28.3% yoy. Among other factors, these results were due to a drop in prices of raw materials and spare parts, driven by lower global commodity prices and the stronger hryvnia. Financial performance therefore improved primarily in those sectors with a high share of imports in intermediate consumption – namely, in the chemical industry, food industry, mechanical engineering, IT, and other services sectors (read more in Focus *Macroeconomic Effects of the Hryvnia Appreciation* on page 33). The profits in financial and insurance sector rose markedly on the back of substantial growth in fee and commission income of the banking system. This improved the performance of financial and insurance sector, and supported GDP growth in 2019.

The variation in harvesting patterns throughout the year was one of the main factors that slowed economic growth in Q4

Ukraine saw another record harvest of grains (75.1 million tons) and oilseeds thanks to the increase seen in recent years in the productivity of crop farming (which boosted crop yields to high levels, with yields of some crops hitting record highs) and larger sown areas. However, in 2019 most of the harvest was gathered in Q2 and Q3, which drove a sharp increase in the GVA of agriculture in this period, as well as its expected decline in Q4. This was a significant factor behind the fast growth in GDP seen in Q2 and Q3, and its slowdown in Q4.

Active exports of agricultural products led to an increase in the physical volume of exports. As a result, in Q3, net exports made a positive contribution to GDP growth for the first time in the last four years. Overall for the year, the NBU estimates that the negative contribution of net exports decreased significantly compared to the previous year.

The weak industrial performance in Q4 stems from the combined effect of an unfavorable external price environment, the strengthening of the hryvnia, and warm weather

The steeper fall in industrial production at the end of the year, along with the statistical effect of a faster pace of harvesting in the previous quarter, were the main reasons for the slowdown in GDP growth in Q4. In turn, the weaker performance of the industrial sector was largely due to an

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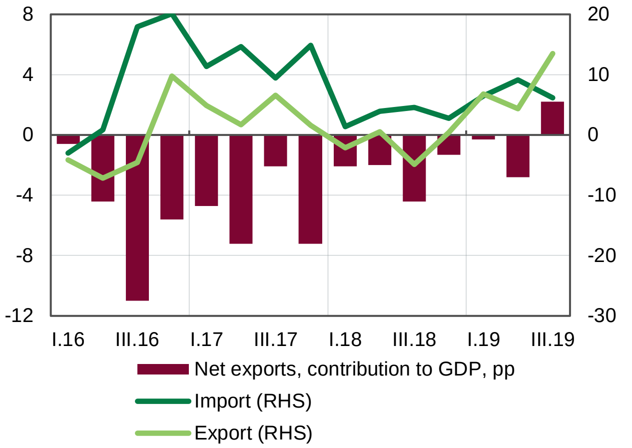
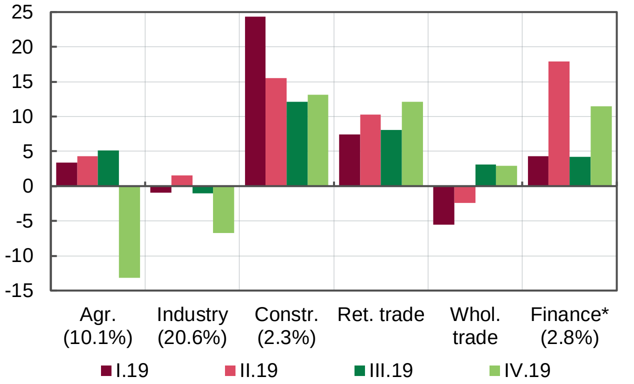
[9] A total of 2,432.2 MW of wind and solar energy generating capacity was put into operation over the first nine months of 2019, which is six times the capacity put into operation in the same period of 2018.

Figure 2.2.7. Exports and imports of goods and services, % yoy, contribution of net exports to annual real GDP growth, pp



Source: SSSU, NBU staff estimates.

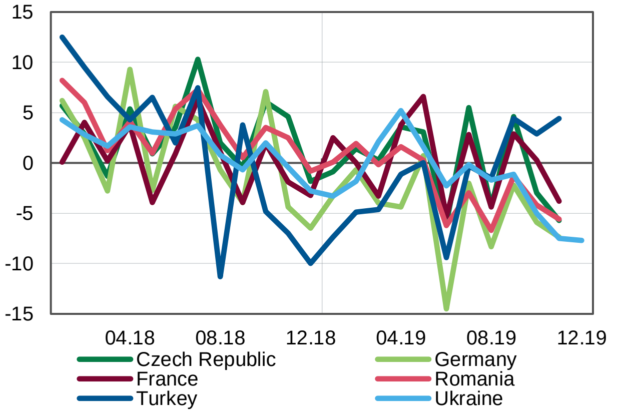
Figure 2.2.8. Output in different types of activities in 2019 (in % of 2018 GDP), quarterly averages, % yoy



* GVA for finance, IV.19 – NBU staff estimates.

Source: SSSU, NBU staff estimates.

Figure 2.2.9. Industrial production index in selected countries, % yoy



Source: Eurostat, SSSU.

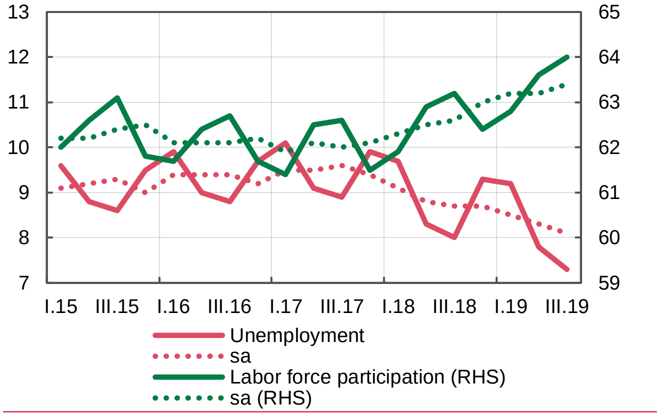
unfavorable external environment: global steel prices hit lows in September–October, and ore prices resumed their decline from August 2019. In addition, an escalation of global trade wars in January–September 2019 caused a decrease in external demand. As a result, industrial production dropped not only in Ukraine but also in the EU countries.

A number of large Ukrainian companies, including metals companies, used this opportunity to make repairs. Lower demand for products in related sectors, energy, ore, and mechanical engineering aggravated the adverse effects for industrial production as a whole. The relatively warm weather was an additional factor behind the decreased GVA of the energy sector. A decline in mechanical engineering production was exacerbated by trade restrictions imposed by the Russian Federation at the end of 2018. Food industry output was affected by a smaller harvest of some fruit and vegetables. The downturn in industrial production contrasted with rapid growth in the construction, trade, and services sectors (including financial and insurance services), which were the main economic growth drivers in 2019.

2.3. Labor Market and Household Income

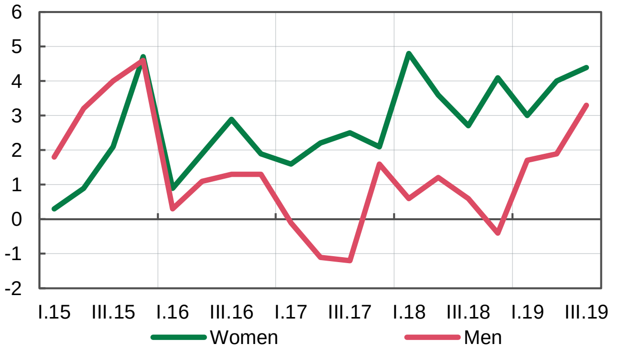
- Economic growth in 2019 spurred the demand for labor. This led to a decline in the unemployment rate, despite the labor supply being higher, and an increase in the number of employed.
- Household income grew at a considerable pace due to pension increases and wage growth. The latter was driven by labor shortages because of labor migration and professional mismatches.

Figure 2.3.1. **ILO unemployment* and labor force participation** rate, %**



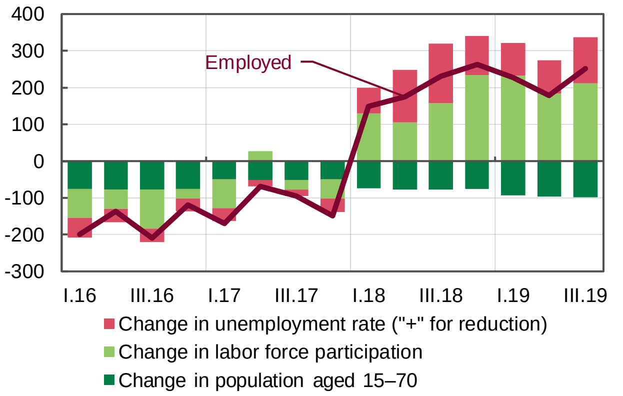
* As a % of population aged 15–70 in the labor force.
** As a % of total population aged 15–70.
Source: SSSU, NBU staff estimates.

Figure 2.3.2. **Annual change in labor force participation rate in the 50–59 age group by sex, pp**



Source: SSSU, NBU staff estimates.

Figure 2.3.3. **Decomposition of change in the number of employed aged 15–70, thousand persons yoy**



Source: SSSU, NBU staff estimates.

Labor supply continued to expand in 2019 in spite of a negative demographic trend

The number of people aged 15–70 shrank by 0.6% yoy in the first 9 months of 2019 due to a natural reduction in the population (the mortality rate exceeded the birth rate). Meanwhile, labor force participation continued to rise, driven by sustained growth in wages and the lasting effect of amendments to the pension law that were made at the start of 2018[10]. This was the case for both women and men in rural and urban areas, but most of all for people aged 50–59. As a result, the size of the workforce increased.

Economic growth in 2019 buoyed employment and reduced unemployment...

Labor demand remained strong as economic growth accelerated and recruiters struggled to fill job openings. Specifically, the number of SESU vacancies increased in the public sector (public administration, education, and healthcare), transportation and agriculture, which reflected, among other factors, employers' upbeat expectations during Q1–Q3 about workforce changes in the next 12 months (according to this Business Outlook Survey). Overall, employment in 2019 increased, while unemployment continued to decline.

In Q4, businesses' expectations about future changes in the workforce worsened, primarily due to a decline in the industrial sector. In contrast, companies in the trade and construction sectors expect to continue hiring more workers.

...but mismatches in the labor market remained significant, putting upward pressure on wages

Real wages of staff increased in 2019 by 9.8% yoy, continuing to outpace the growth in productivity by a significant margin.

Significant labor shortages remained a major driver of wage growth (for more details, see Box 3 *What is Driving the Change in Wages?* on page 22 of the October 2019 Inflation Report). The share of companies reporting labor shortages as being among the most significant factors limiting their ability to increase production – a third of all companies – is at its highest in recent years, according to business surveys. Companies in all core sectors said they were experiencing a lack of workers, most of all in construction and manufacturing.

The shortage of labor in Ukraine has occurred for two reasons. First, a large number of Ukrainians, lured by higher wages, have gone to work abroad (to Poland, the Czech

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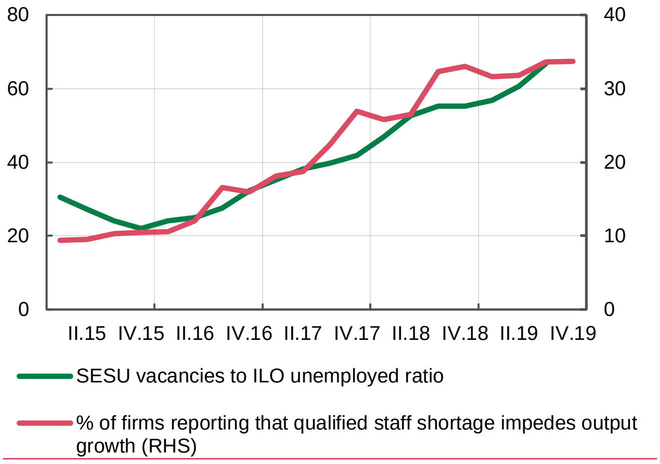
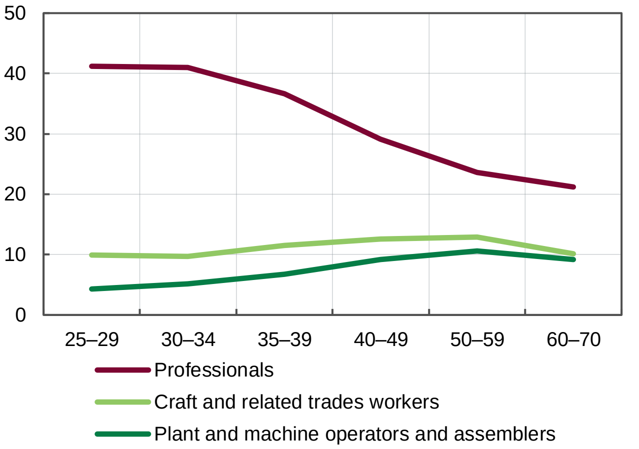
[10] In particular, the minimum pensionable service period required to receive an old-age pension was increased. This period is set to rise by one year every year until 2028. For details, see Box The Key Elements of Pension Reform in the October 2017 Inflation Report (pages 27–28).

Figure 2.3.4. Labor market tightness indicators



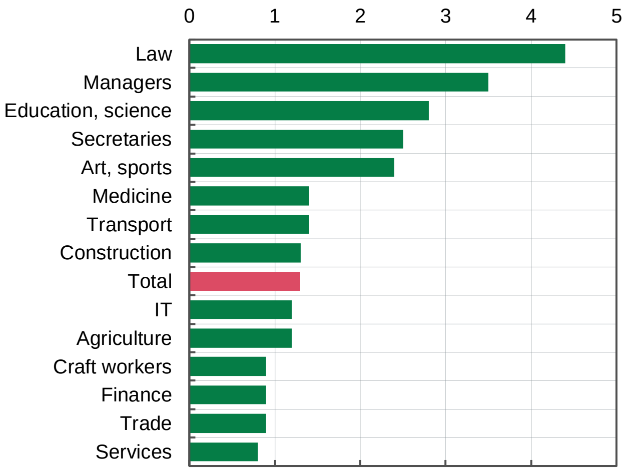
Source: SSSU, SESU, Business outlook survey of Ukraine (NBU), NBU staff estimates.

Figure 2.3.5. Population decomposition by age and selected occupational groups in 2018, % of respective age group population



Source: Labor Force Survey (SSSU microdata), NBU staff estimates.

Figure 2.3.6. Number of new work.ua resumes per new vacancies in selected types of activity in 2019



Source: work.ua, NBU staff estimates.

Republic, and Russia). In particular, the number of Ukrainian labor migrants working in Poland in 2019 amounted to almost one million, economists estimate. A large fraction of labor migrants are employed in blue-collar occupationshe market for these workers inside Ukraine is currently tight.

Second, there are currently mismatches between labor supply and demand in a number of professions and types of economic activity. Specifically, fewer and fewer young people are enrolling in vocational training colleges[11] – evidence of their declining interest in pursuing blue-collar careers – leading to a shortage of these professionals as old workers retire. In 2018, 26% of all vocational training graduates were young men and women aged 15–34, while 41% were older individuals aged 50–70, an SSSU Labor Force Survey found.

The ratio of new resumes to new vacancies indicates a shortage of certain kinds of professions in the market. In the services sector and blue-collar occupations, there was less than one resume per vacancy, according to the job search website work.ua. While employment in the IT sector increased by 20% in 2019, less than one resume in that sector corresponded to one vacancy. Meanwhile, the labor market registered a surplus of job candidates in law, education, and secretarial work. The SESU's data on the ratio of registered job seekers to vacancies by occupation showed similar developments.

The discrepancy between previously received education and employer demands is another factor that could partially explain the mismatches in the labor market. While youngsters increasingly choose higher education over vocational training, the labor market is struggling to fill vacancies that do not require university-level qualifications. As a result, the share of overqualified individuals is higher among young people than in other age groups.[12] Overqualification is associated with lower labor productivity of an economy, an OECD study has found (McGowan, Andrews, 2015).

Nominal household income grew rapidly, driven by salaries of employees in Ukraine and pensions

In Q1–Q3 2019, nominal household income increased by 15% yoy. This growth was significant, although lower than that of the year before (24% yoy). This was made possible by the high growth in wages earned in Ukraine, as the average wage and employment increased. The growth in salaries of employees abroad slowed due to weaker labor migration and a stronger hryvnia.

Social benefits and social transfers in kind were significant contributors to income growth. On the one hand, subsidies continued to shrink due to an increase in other components of household income, amid moderate increases in utility tariffs and natural gas prices even falling. Pensions, on the other hand, increased at a fast pace, driven by:

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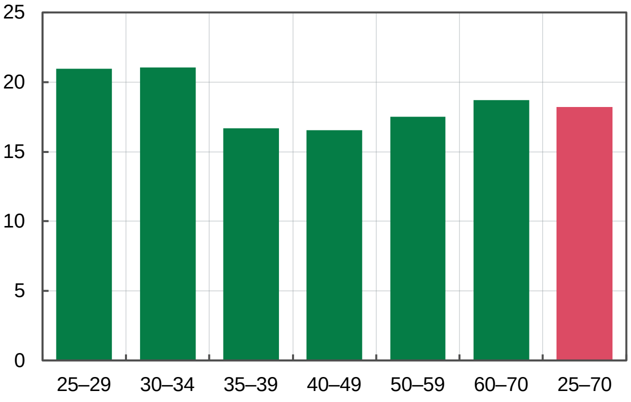
[11] The number of vocational training colleges decreased to 736 in 2018, down from 798 in 2015, while the number of students attending such schools declined to 60 per 1,000 people, compared to 71 in 2015.

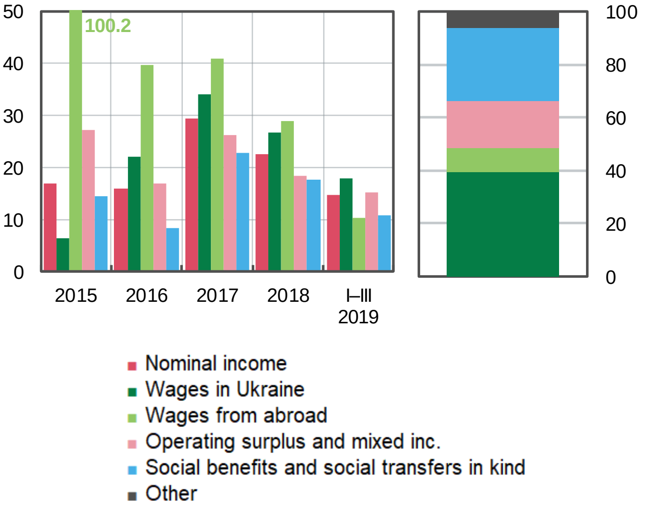
[12] Eurostat defines overqualified workers as employed persons who have attained tertiary education and who work in occupations for which a tertiary education level is not required (those include sales workers, skilled workers, unskilled workers, etc.).

Figure 2.3.7. **Share of overqualified employed persons, %**



Source: Labor Force Survey (SSSU microdata), NBU staff estimates.

Figure 2.3.8. **Nominal household income and its components**
Annual change, % yoy **Structure in Q1–Q3 2019, %**



Source: SSSU, NBU staff estimates.

- an increase in the subsistence minimum for disabled persons (the minimum old-age pension is set at this level)
- an increase in the minimum wage (minimum pensions for persons who have accumulated the required number of years of pensionable service are set at the level of 40% of the minimum wage)
- indexation of pensions
- additional payments in March and April to persons who had accumulated the required number of years of pensionable service but had small pensions, and an increase in pensions for these persons starting in July
- an increase in pensions for certain categories of pensioners.

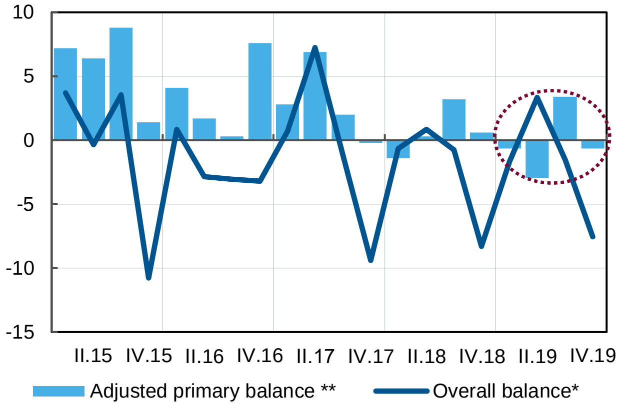
perating surplus and mixed income grew sustainably fast during the year. This was driven by a revival in economic activity in Ukraine, primarily due to growing sales in agriculture and retail trade.

Real disposable income increased, due to both higher nominal income and lower inflation. However, this growth was outpaced by consumer spending, which was partially due to an increase in consumer lending.

2.4. Fiscal Sector

- In 2019, fiscal policy eased somewhat, but was generally neutral for the economy.
- Coupled with the effect of the hryvnia strengthening, this prudent fiscal policy led to a further reduction, by almost 50%, in the ratio of public and publicly guaranteed debt to GDP.
- During the year, the government preferred to raise funds in hryvnias, which helped improve the currency composition of the debt.

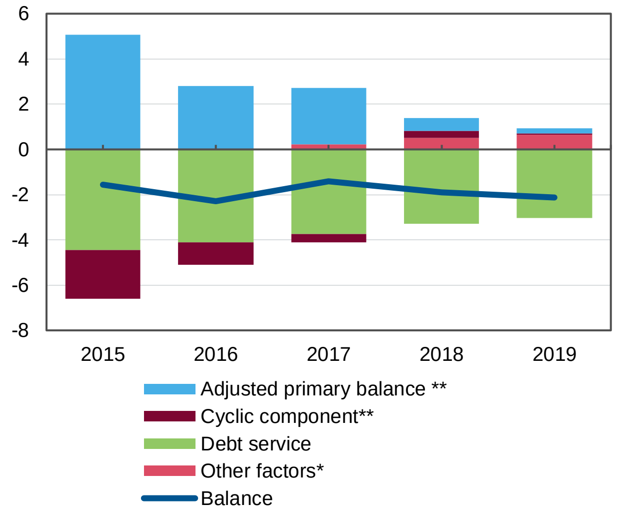
Figure 2.4.1. **General government fiscal balance, % of GDP* and % of potential GDP****



*Overall balance (% of GDP) is the consolidated budget balance, taking into account loans to the Pension Fund from the STA.
**Cyclically adjusted primary fiscal balance (CAPB) of the general government (% of potential GDP). CAPB is the difference between seasonally adjusted revenues, in the structure of which tax revenues are adjusted for cyclical changes in GDP, and seasonally adjusted primary expenditures.

Source: STSU, NBU staff estimates.

Figure 2.4.2. **Consolidated budget balance, % of GDP**



* Other factors include mostly windfall gains.
** Cyclically adjusted primary fiscal balance (CAPB) and cyclic component - see figure 2.4.1.

Source: STSU, NBU staff estimates.

Fiscal policy eased in 2019 compared to the previous year

Based on results for 2019, the consolidated budget ran a deficit (UAH 84.3 billion), the bulk of which was, as is usual, formed in Q4. The GDP deficit remained virtually unchanged from a year ago and was lower than the IMF criterion. Overall, fiscal policy in 2019 was neutral for the economy, but its impact differed in H1 and H2, the NBU estimates.

In H1, fiscal policy had a moderately stimulating effect on the economy by supporting both private consumption and investment activity. Expenditures continued to grow at relatively high rates compared to the moderate growth in tax collection. Receipts from several sources, though one-off in nature, allowed the government to finance expenditures and even generate a consolidated budget surplus. In particular, the NBU was able to transfer a portion of its distributable profit to the state budget ahead of schedule, and the sum was larger than previously planned. In H2, the weak performance of tax revenues was offset by a tightening of expenditure discipline, and by some ad-hoc nontax revenues later in the year. Despite its generally tight stance, fiscal policy was slightly looser than in the same period of the previous year.

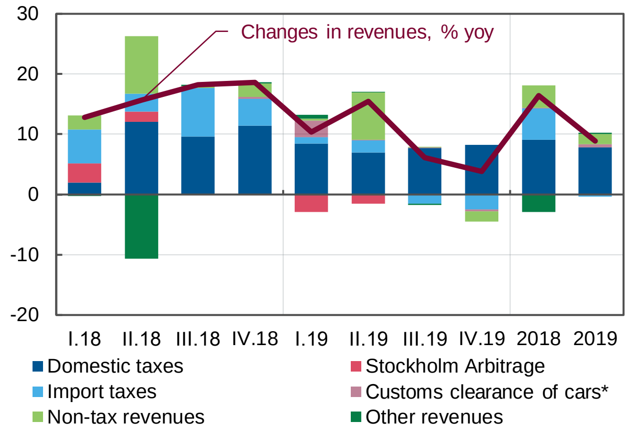
To a large extent, the restrained fiscal policy is driven by significant debt servicing needs. These expenditures amounted to 3% of GDP, despite their gradual decline in 2019 (due to savings, amid a stronger hryvnia and lower inflation) and in previous years. In fact, these expenditures are what have led to the formation of a consolidated budget deficit in recent years.

Revenues grew moderately due to a number of discretionary decisions and changing macroeconomic conditions

The growth in consolidated budget revenues slowed in 2019, coming in at a moderate 8.9% yoy, which was driven by:

- the granting of unplanned exemptions on imports of equipment for renewable energy facilities, which caused UAH 0.8 billion in monthly losses, the MoF estimates.
- the catching up in January 2019 with the previous year’s VAT refunds (the refunds paid out that month alone exceeded the monthly average in the next eleven months of the year by more than UAH 7.5 billion)
- changing the approach to importing natural gas – NJSC Naftogaz of Ukraine started to purchase gas under what is known as a customs warehouse regime
- uncertainty over the legal framework for tobacco product manufacturers and distributors, which had a significant

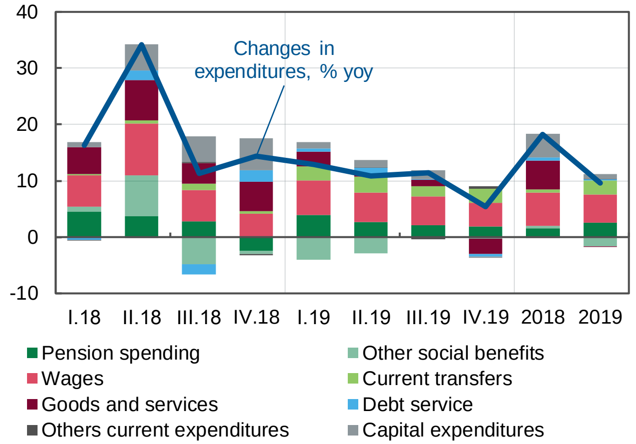
Figure 2.4.3. Contributions to annual changes in revenues of the consolidated budget, pp



*The customs clearance of cars transported into the customs territory of Ukraine which fall under the customs regime of transit or temporary import (according to Law of Ukraine, dated 08.11.2018 "On amendments to the tax code of Ukraine concerning the excise tax on cars").

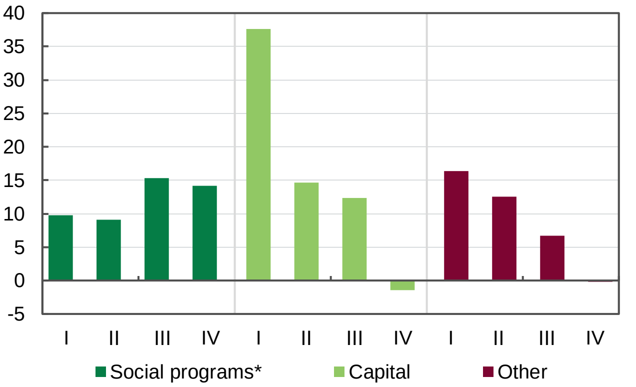
Source: STSU, NBU staff estimates.

Figure 2.4.4. Contributions to annual changes expenditures of the consolidated budget, pp



Source: STSU, NBU staff estimates.

Figure 2.4.5. Growth in consolidated budget expenditures by selected areas in 2019,% yoy



*Wages incl. single social contribution and social care.

Source: STSU, NBU staff estimates.

impact on the output of tobacco products and thus on excise tax revenues

- macroeconomic conditions being significantly different to those envisaged in the budget.

Weaker imports and the greater-than-expected strengthening of the hryvnia, as reflected in receipts from international trade taxes and VAT on imported goods. However, the NBU estimates that the stronger hryvnia can account for only about half of the total gap between the planned and actual tax revenues (for more details, see the Focus *Macroeconomic Effects of the Hryvnia Strengthening* on page 33). In addition, the fall in global energy prices, especially those for natural gas, caused a decrease in domestic prices for natural gas, which together with a decline in natural gas production, led to lower-than-expected royalties.

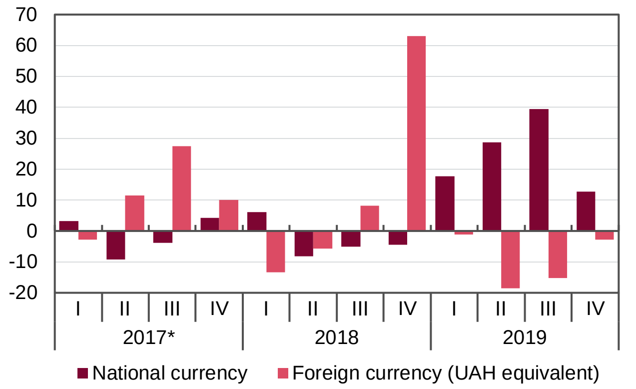
Meanwhile, tax revenue growth was supported by steady revenues from the personal income tax and corporate income tax, as wages surged and businesses improved their financial performance. One-off and ad-hoc factors also played an important role in driving the growth in revenues. Apart from the NBU's transfers, these revenue sources included proceeds from the customs clearance of previously imported cars with EU registrations, and early dividend payments by NJSC Naftogaz of Ukraine.

Budget expenditures were primarily focused on social programs, but capital expenditures were also maintained for most of the year

Socially targeted programs remained a priority funding area in 2019. Expenditures on employee wages grew at a steady pace, including because of allowances for Ukrainian military personnel. Expenditures on pensions and benefits increased significantly, reflecting a planned increase in the subsistence minimum and the indexation of pensions, as well as higher pension payments to certain categories of pensioners. Expenditures on social programs continued to grow relatively quickly, despite the fall in budgetary spending on housing and utility benefits and subsidies for households. The latter decreased due to the warm winter weather (at the beginning and the end of the year) and higher household incomes, amid moderate growth of utility tariffs and their reduction in late 2019.

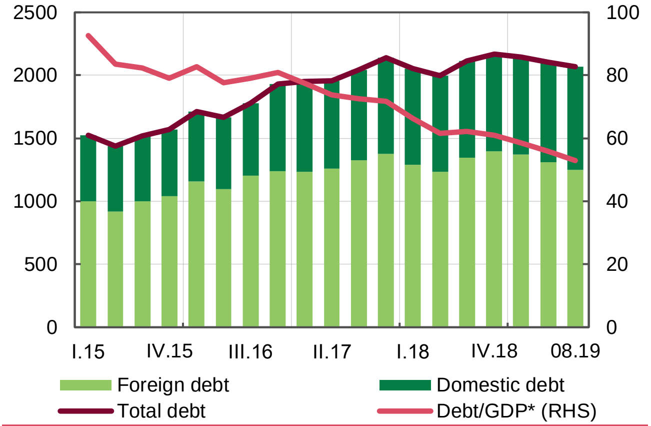
For most of the year, expenditures on capital projects increased rapidly. At the end of the year, tightened controls over expenditures due to poor revenue performance and the need to accumulate funds for future repayments of public debt affected capital expenditures and expenses on purchases of goods and services, reducing them in Q4 in year-on-year terms. At the same time, one of the factors in cutting these expenditures was the strengthening of the hryvnia. That, and lower inflation along with a sufficiently prudent fiscal policy, were the key factors behind the moderate increase in debt-servicing expenditures. Overall, actual debt-servicing expenditures fell almost UAH 26 billion short of the budgeted figures for 2019. As a result, expenditure growth rates in Q4 2019 notably declined, in contrast to previous years, when the growth in consolidated

Figure 2.4.6. **State budget net borrowings, UAH billion**



*The 2017 borrowings do not include government bonds issued to increase banks' authorized capital.
Source: STSU, NBU staff estimates

Figure 2.4.7. **Public and publicly guaranteed debt (by repayment currency), UAH bn and % of GDP***



*In the absence of detailed information on debt repayment by currency as of September 30, 2015 and September 30, 2016, the currency structure was approximated based on data for October 31, 2015 and August 31, 2016, respectively.
**GDP for 2019 - NBU estimates.

Source: STSU, NBU staff estimates.

budget expenditures accelerated as the year came to a close, keeping expenditure growth generally moderate for the year as a whole.

Debt burden declined

Borrowing remained a priority funding source in 2019. Proceeds from the placement of domestic government debt securities and funds from international partners mainly came in H1 2019, while privatization receipts were insignificant. The domestic market remained the main source for raising financing. During the year, the government placed both hryvnia and FX domestic government debt securities, but the FX liabilities were gradually replaced by hryvnia debt instruments, as funds raised from FX domestic government debt securities fell short of repayments. The switch to hryvnia borrowing amid a strong hryvnia improved the debt's currency composition: the share of hryvnia debt had increased by the end of 2019 (to 36.7% from 29.1% in late 2018).

The debt-to-GDP ratio continued to decline, reaching almost 50%, by NBU estimates. In addition to a sound fiscal policy and economic growth, the hryvnia strengthening was a significant factor in improving the key debt ratios. The stronger hryvnia accounted for more than half of the decrease in the debt-to-GDP ratio in 2019 compared to 2018, the NBU estimates.

Box 2.Ukraine’s state budget 2020

The state budget for 2020 was approved with a deficit of UAH 96 billion, or 2.2% of GDP, which is practically the same as the actual figure for 2019, and in line with Ukraine’s commitments to the IMF. Given how macroeconomic developments unfolded in late 2019, the assumptions behind the 2020 budget, including on consumer inflation, the exchange rate, and the volume of sales of excisable goods, appear rather optimistic. At the same time, the revenue risks arising from these assumptions could largely be offset by higher transfers from NJSC Naftogaz of Ukraine.

The parameters approved in the 2020 budget provide for a rather moderate increase in both budget revenues and expenditures (approximately 10% compared to the actual levels of 2019), while the size of the deficit in relation to GDP is little changed and meets Ukraine’s commitments to the IMF. It appears, however, that the government may find itself hard-pressed to meet the projected revenue targets. All the same, there are important offsetting factors.

The slowdown in revenue growth in 2020 is attributable to nontax receipts being lower than their actual levels in 2019. This is due to the planned decrease in the transfer of state-owned companies’ profits and dividends to the state budget, as well as a smaller sum of profit transfers from the NBU.

At the same time, the target for tax revenue growth is set at a rather ambitious 15.9%. This is driven by the risks to the macroeconomic forecasts on which the state budget is based, given the stronger hryvnia and low inflation in 2020. The former poses risks to revenues from import taxes (which represent up to 40% of total revenues), while the latter creates a chance that domestic tax receipts will deviate from planned levels. In addition, there will be no source of additional tax revenue in 2020, such as the customs clearance of vehicles imported into Ukraine and placed under customs clearance regimes known as customs transit or temporary admission.[13]

Despite the planned[14] increase in the excise tax on tobacco products and the expansion of its tax base, the planned amount of revenues from this tax appears optimistic in view of the further reduction in consumption and drop in the production of tobacco products in 2019. The payment of royalties is also at risk, as assumptions about the import price and domestic production of natural gas may fail to be borne out.

At the same time, payments from NJSC Naftogaz of Ukraine (in the form of both tax receipts and dividend payments) could be a powerful factor in compensating for potentially lower-than-planned tax revenues. One source of additional revenue is Gazprom’s payment in late 2019 of compensation awarded under a ruling by the Stockholm arbitration court.

Moreover, expenditures are likely to grow more slowly than planned, thanks to savings from the servicing of FX debt and lower spending on (imported) goods and services due to the strong hryvnia.

Also, given the reduction in the cost of natural gas and related tariffs for heating and hot water supplies compared to the forecast levels, there is a possibility of savings being made on expenditures for providing utility benefits and subsidies to the public.

As with last year, large repayments on public debt have been scheduled for 2020. The sum needed for public debt repayments, including FX debt-servicing expenditures, exceeds USD 9 billion, the NBU estimates. However, relative to GDP as projected by the NBU, the overall need for financing state budget spending on debt transactions in 2020 (including debt repayments and servicing) will slightly decrease (to 9.9%, down from 11.7% in 2019).

The government as usual intends to cover the deficit and debt repayments with borrowed funds. Despite the significant amount of planned external borrowing, the NBU expects that the ratio of public and publicly guaranteed debt to GDP will decline further, and that the currency composition of the debt will improve, with its hryvnia share being greater. Overall, fiscal policy in 2020 will remain close to neutral, the NBU estimates (for more details, see Section 3.2 *Demand and Output* on page 40). At the same time, the one-off nature of the offsetting factors that made it possible to maintain a moderate budget deficit in 2018–2020 reemphasizes the need to develop a medium-term budget based on conservative approaches and balanced risks.

Table 1. Main state budget indicators, UAH billion

	2019			2020	2019	2020	2019	2020
	Law	Fact	% of plan	Law	% yoy		% of GDP (NBU estemate and forecast)	
Revenues, total	**1007.3**	**998.3**	**-0.9**	**1095.6**	**7.6**	**9.8**	**25.1**	**25.5**
Tax revenues	840.6	799.8	-4.9	926.6	6.1	15.9	20.1	21.6
PIT	106.2	110.0	3.6	129.4	19.9	17.7	2.8	3.0
CIT	95.5	107.1	12.1	118.9	10.5	11.0	2.7	2.8
Royalties	58.3	46.8	-19.8	55.3	3.3	18.4	1.2	1.3
Excise tax	130.2	123.4	-5.3	141.0	3.8	14.3	3.1	3.3
Domestic exise tax	85.9	69.9	-18.7	87.8	-1.8	25.7	1.8	2.1
VAT	415.8	378.7	-8.9	446.3	1.1	17.9	9.5	10.4
Domestic VAT, incl. refund	94.6	88.9	-6.0	96.8	12.4	8.9	2.2	2.3
Imported VAT	321.2	289.8	-9.8	349.5	-1.9	20.6	7.3	8.2
Non-tax revenues, other revenues	166.7	198.5	19.1	169.0	13.9	-14.9	5.0	3.9
Expenditures, incl. net lending	**1098.4**	**1076.3**	**-2.0**	**1191.9**	**9.0**	**10.7**	**27.1**	**27.8**
Balance (- deficit)	**-91.1**	**-78.1**	**-**	**-96.3**	**-**	**-**	**-2.0**	**-2.2**

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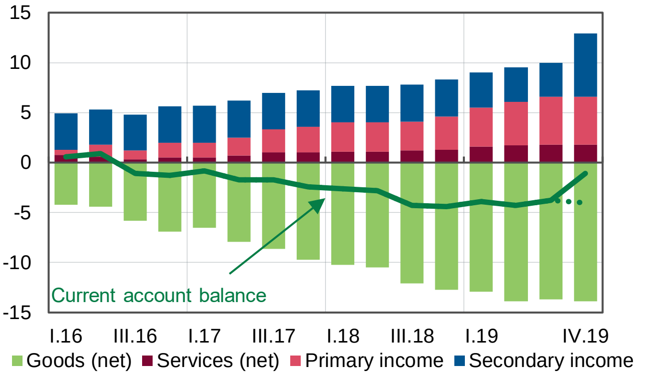
[13] In 2019, as much as UAH 7.1 billion in revenues came from this source. Without these proceeds, the growth in tax revenues in 2020 increases to 16.9% yoy.

[14] The excise tax on filter and non-filter cigarettes is scheduled to be raised annually to comply with EU harmonization obligations.

2.5. Balance of Payments

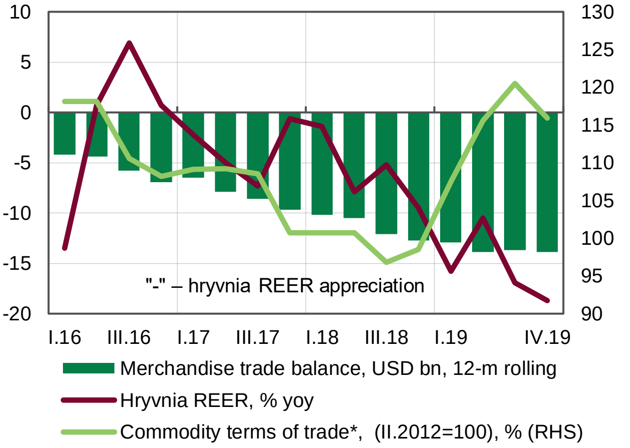
- The current account deficit narrowed significantly in 2019, due to both fundamental and one-off factors.
- Despite a stronger hryvnia and the largest imports of gas in the last five years, the trade in goods deficit widened only slightly in absolute terms, due to better terms of trade and an increase in the productivity of the Ukrainian economy. As a percentage of GDP, the deficit even decreased.
- Gross international reserves reached a high not seen since 2012, thanks to capital inflows to the public and real (in the latter half of 2019) sectors.

Figure 2.5.1. Current account balance, USD bn, 12-m rolling



Dotted line – excluding the compensation paid by Gazprom.
Source: NBU.

Figure 2.5.2. Merchandise trade balance, hryvnia REER and commodity terms of trade index



* Commodity terms of trade index is an indicator calculated by the IMF to reflect the terms of trade in basic commodities on the world market. For more details, see IMF's Commodity Terms of Trade Database.

Source: IMF, NBU staff estimates.

The current account deficit has narrowed markedly

The sharp narrowing in the current account deficit recorded in late 2019 reflected a large but one-off transaction – the compensation paid by Gazprom according to a ruling made by the Stockholm Arbitration Court. Overall, this transaction had a neutral effect on the balance of payments and, consequently, reserves: the current account inflows were offset by a decrease in the assets of the central bank and the banking system in the financial account.

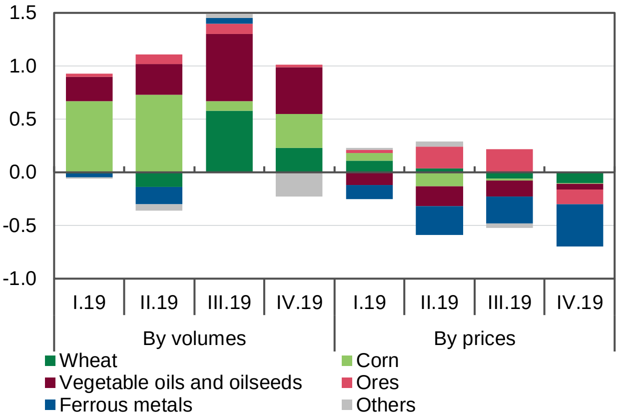
The current account deficit decreased even without factoring in this transaction. This decrease was brought about by further growth in labor migrants' remittances, lower dividend payments, and a widening in the trade in services surplus. Despite large energy imports and robust domestic demand, the merchandise trade deficit in absolute terms (barring the temporary effect of the customs clearance of previously imported cars), was only slightly larger than last year's deficit. For the first time in post-crisis periods, the deficit narrowed as a percentage of GDP. Deficit growth was curbed by better commodity terms of trade and the higher productivity of the economy, mainly of the agricultural sector.

Exports of goods grew, driven by record-large agricultural exports

Exports of goods rose by 6.4% in 2019, bolstered mainly by the higher productivity of the agricultural sector, which outweighed the effects of a less benign external price environment for exporters. Food exports grew rapidly, buoyed by record-large exports of a number of commodities, such as grain, oilseeds, sunflower seed oil and oil-cake residues, due to the bumper harvests of agricultural crops seen in 2018–2019. The slower growth recorded in Q4 resulted from last year's high basis of comparison – despite being considerable, the harvest of corn remained at the level of last year. Stronger demand from China fueled by the trade tensions between China and the Unites States also contributed to the growth in food exports. As a result, for the first time in history, China became Ukraine's most important trading partner, pushing ahead of Russia, Germany and Poland.

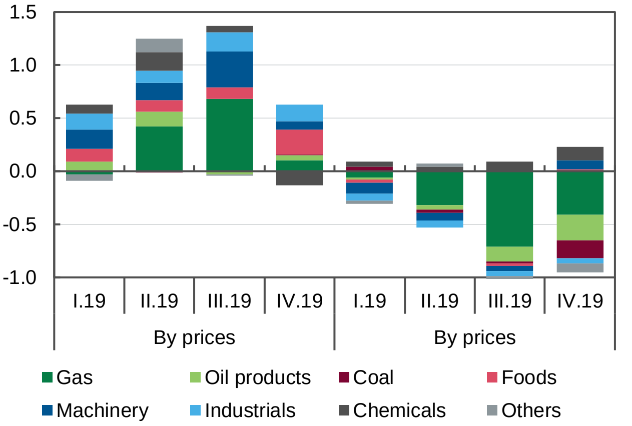
The less benign external price environment for Ukrainian exporters seen in 2019 had the strongest impact on metallurgical exports, pushing down both the volumes and value of these exports. In Q4 2019, the value of ferrous metal exports declined, mainly due to lower prices. In turn, the value of chemical product exports dropped primarily due to a fall in

Figure 2.5.3. Annual change in volumes and prices of selected export goods*, USD bn



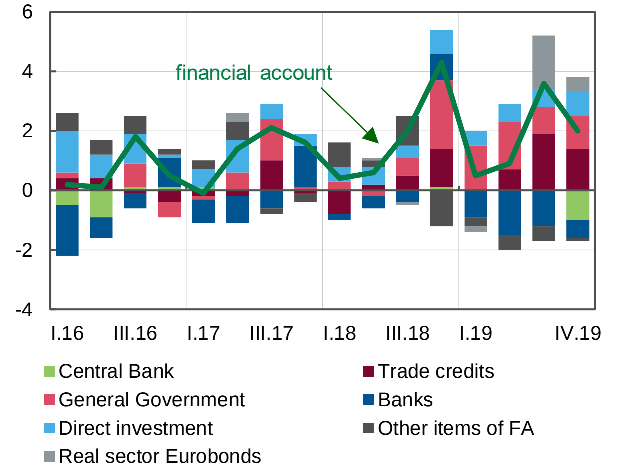
* 78% of goods exports.
Source: SFSU, NBU staff estimates.

Figure 2.5.4. Annual change in volumes and prices of selected import goods*, USD bn



* 52% of merchandise imports. .
Source: IMF, NBU staff estimates.

Figure 2.5.5. Financial account: net financial liabilities, USD bn



Source: NBU.

the price of energy, which is the main component of the intermediate consumption of the chemical industry.

Conversely, exports of iron ores grew in 2019, driven by the spike in global iron ore prices in H1 2019. However, the volumes of these exports dropped in late 2019 on the back of falling global prices.

Machinery exports have been on the rise for three years in a row. In H2, the growth in these exports was largely propelled by the cancellation of the anti-dumping duty on imports of wagons and their parts to the member countries of the Eurasian Customs Union.

Import growth was dampened by a significant fall in energy prices

A slump in energy prices reduced the value of energy imports in 2019, despite the volumes of gas imports being the largest in the last five years. In addition, the drop in global energy prices decreased the cost of chemical industry products, slowing the growth in the imports of these products in H2. In general, the improvement in Ukraine's terms of trade was due to sharp falls in the global prices of the goods that account for the bulk of Ukrainian imports, which more than offset the drops in prices for export goods.

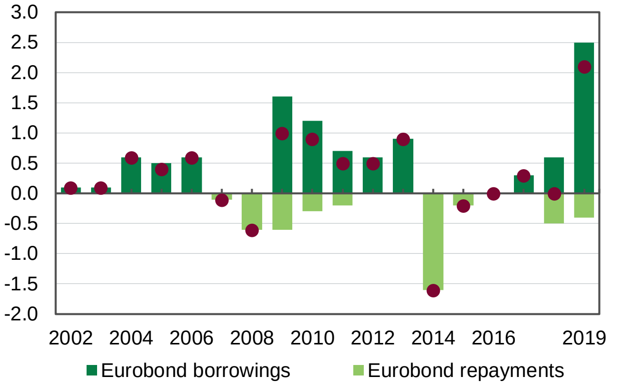
In contrast, non-energy imports grew at a steady pace in 2019, buoyed by robust investment and consumer demand. More specifically, last year saw another significant increase in investment in the construction of renewable energy facilities, which spurred growth in imports of electrical equipment. Imports of new and used cars rose at a fast pace, hitting a record high in 2019. This rise mainly resulted from a decrease in the excise tax on imported cars, higher household income, an improvement in companies' financial performance, and a stronger hryvnia. Overall, investment imports expanded by 12% yoy in 2019.

Despite the strengthening of the hryvnia and sustained domestic demand, consumer imports, like last year, grew at a steady pace (20% yoy) throughout 2019.

Both the public and real sectors generated capital inflows

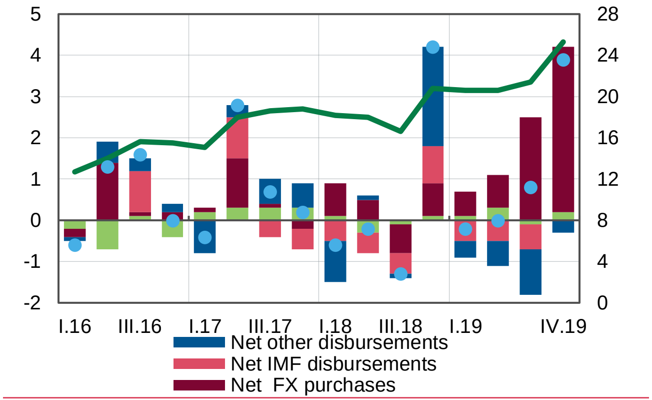
In 2019, the financial account recorded capital inflows, mainly debt inflows. Strong demand from nonresidents for hryvnia domestic government debt securities brought about capital inflows to the public sector. Specifically, the portfolio of hryvnia domestic government debt securities held by nonresidents increased by USD 4.3 billion in 2019. The real sector became an important contributor to generating capital inflows in H2, when several Ukrainian companies entered the debt capital market after a long hiatus. More specifically, Ukrainian railways, Naftogaz of Ukraine NJSC, and Myronivsky Hliboproduct (an agro-industrial holding group) issued Eurobonds. As a result, rollover in the real sector increased to 146% in 2019. In addition, H2 witnessed a rise in trade credit liabilities.

Figure 2.5.6. Real sector net Eurobond borrowings, USD bn



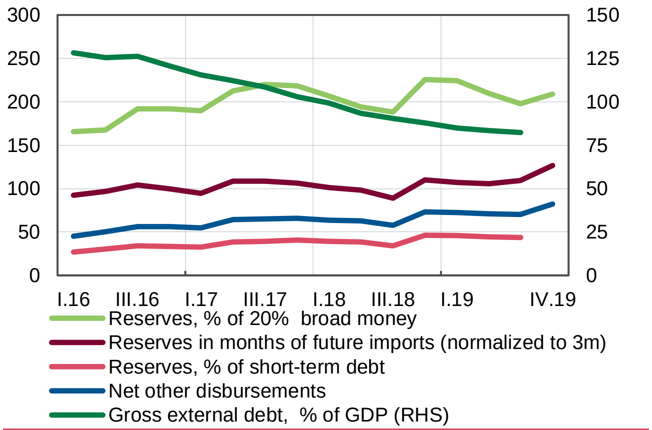
Source: NBU.

Figure 2.5.7. International reserves and their change by instruments, USD bn



Source: NBU.

Figure 2.5.8. Selected external sustainability and adequacy criteria, %



Source: NBU staff estimates.

Net inflows of foreign direct investment came in at USD 2.5 billion in 2019. Inward foreign direct investment was USD 3.2 billion, with outward investment totaling USD 700 million. It should be noted that this amount includes banks' debt-to-equity operations and the sale of Vodafone (due to the specific nature of the sale and purchase agreement, a portion of the latter transaction was also presented in 2019 statistics as investment from Ukraine). After factoring out the sale of Vodafone, foreign direct investment in the real sector increases to USD 2.4 billion (up by 60% compared to 2018 when this figure stood at USD 1.5 billion). Wholesale and retail trade and real estate transactions remained the main recipients of foreign direct investment, with investment in the mining sector rising substantially at the end of the year.

External sustainability indicators are improving despite large external debt repayments

The overall balance of payments surplus enabled the NBU to significantly increase international reserves, especially at the end of the year. As a result, reserves as of end-2019 were at a seven-year high of USD 25.3 billion, or 3.8 months of future imports. This increase was due to growth in net international reserves, strengthening Ukraine's external position. Reserves also exceeded 80% of the IMF composite measure.

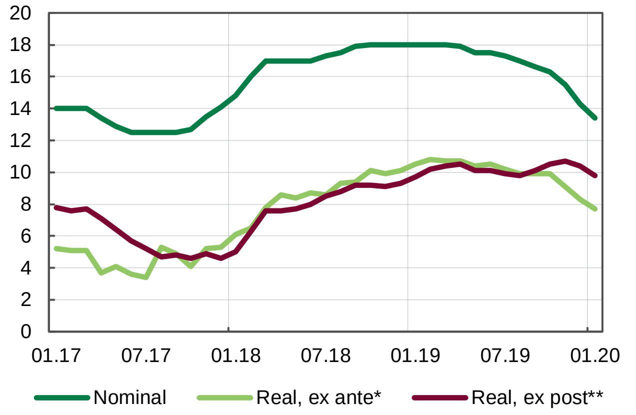
According to NBU estimates, the ratio of external debt to GDP also dropped, despite there being an increase in the gross external debt in absolute terms.

Even after factoring out mitigating factors, such as the low probability that the real sector will pay off a portion of its arrears (read more in Box 4 *Ukraine's Gross External Debt: Recent Trends* published in the July 2019 Inflation Report on page 33), stronger reserve adequacy indicators, together with the lower ratio of external debt to GDP, helped improve foreign investors' perceptions of Ukraine, in spite of Ukraine going through a period of peak external debt repayments in 2020. This significantly lowered risk premiums (the EMBI spread for Ukraine narrowed by about 350 bp in 2019), while also improving the country's ratings and decreasing the cost of borrowings.

2.6. Monetary Conditions and Financial Markets

- In Q4 2019 and at the beginning of 2020 the NBU Board cut the key policy rate more quickly in view of a more pronounced reduction in inflationary pressures over the monetary policy horizon.
- The decreases in the key policy rate, coupled with expectations of further cuts, pushed down interest rates on hryvnia interbank loans and deposits, the yields of domestic government debt securities, and interest rates on most bank loans and deposits.
- The FX market continued to record an appreciation trend, which was driven by the persisting excess supply of FX. This enabled the NBU to replenish international reserves further.

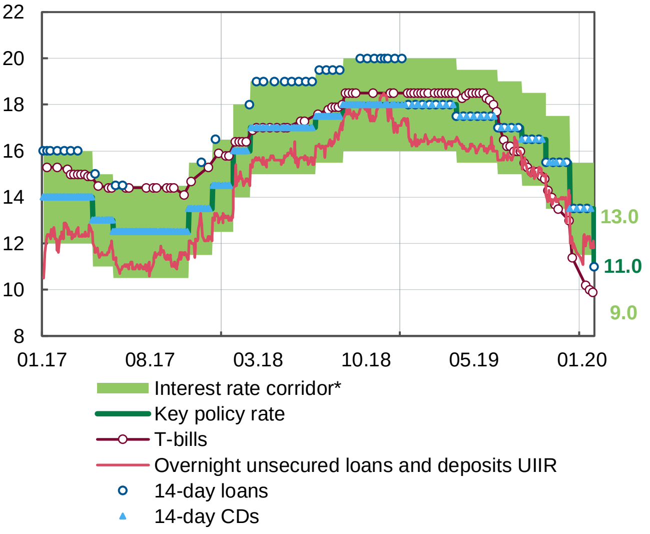
Figure 2.6.1. **Nominal and real key policy rates, average, %**



* Deflated by 12-month ahead inflation expectations of financial analysts.
** Deflated by actual annual rate of core inflation.

Source: NBU staff estimates.

Figure 2.6.2. **NBU policy rates, UIIR and yields on 1-year hryvnia T-bills on the primary market, %**



* Upper bound – interest rate on overnight loans of the NBU, lower bound – overnight CDs of the NBU.

Source: NBU.

The rapid key policy rate cut seen in late 2019 also helped bring this rate down in real terms

The NBU Board lowered the key policy rate twice in Q4 2019, by a total of 300 bp, to 13.5%, and then by another 250 bp to 11% in January 2020. The pace of rate cuts accelerated compared to the October macroeconomic forecast due to there being a more significant reduction in inflationary pressures over the monetary policy horizon (nine to 18 months according to NBU estimates, for more details see Box 4 *The Quarterly Projections Model to Guide Monetary Policy Decisions* on page 43). This decrease was made possible by the marked strengthening of the hryvnia exchange rate in late 2019, which has not yet been fully translated into prices. Reaching a staff-level agreement for a new three-year aid program with the IMF was an additional factor behind the easing of monetary policy in late 2019.

Despite the ongoing improvement in inflation expectations and lower inflationary pressures, real monetary conditions are easing gradually, in accordance with the steady key policy rate cuts the NBU launched in April 2019. However, the real key policy rate is still significantly higher than the neutral interest rate (read more in Box 5 *Revised Estimates of the Neutral Interest Rate* on page 47). On the one hand, a more pronounced cut in the key policy rate could have posed the risk of inflation overshooting the upper bound of its target range in 2021. One should also bear in mind that, although declining, the inflation expectations of all respondent groups (Figure 2.1.2) have not yet been anchored sufficiently – these expectations, apart from those of financial analysts, are significantly higher than the 6% upper bound of the target range. On the other hand, with a low-inflation environment in 2020, and with a view to maintaining inflation at its 5% target and promoting economic growth, the NBU could decrease its key policy rate very quickly (Figure 3.4.1).

Interest rates on hryvnia loans and deposits also declined

The UIIR[15] in Q4 2019 and at the beginning of 2020 continued to move closely in line with the key policy rate, with the index hovering around the lower bound of the NBU's interest rate corridor for standing facilities. The UIIR was pushed close to the lower bound of the corridor by a considerable liquidity surplus, which widened in Q4 2019. (A liquidity surplus is defined as the sum of the funds held on the banks' correspondent accounts and invested in the NBU's certificates of deposit). The NBU's FX market interventions, which increased noticeably in Q4 2019, remained the main

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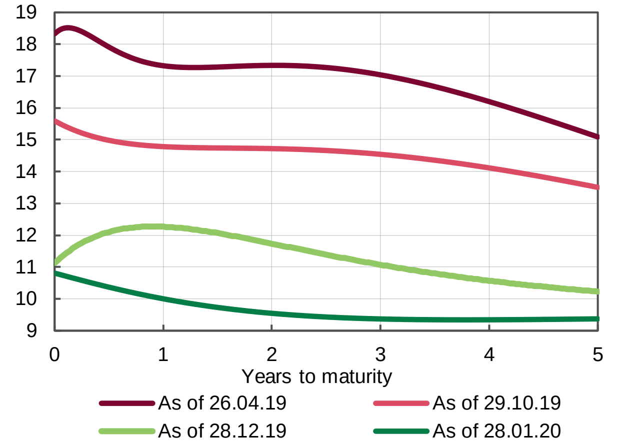
[15] The indicator of hryvnia interbank interest rates for the purposes of interest rate policy.

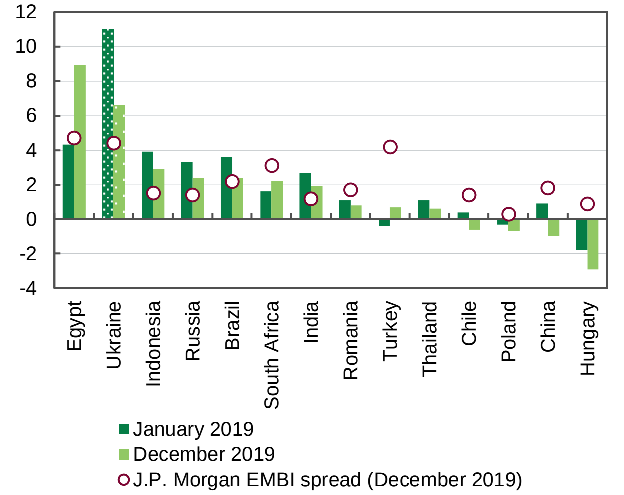
Figure 2.6.3. **Zero coupon yield curves for domestic government debt securities in hryvnia on the secondary market*, %**



* Spot rates with continuously compounded interest plotted using Svensson parametric model.

Source: NBU.

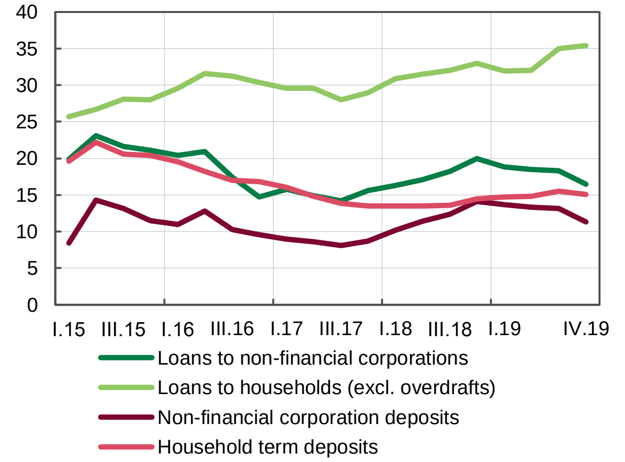
Figure 2.6.4. **Real Sovereign Bond Yields* and Risk Premium in Selected EMs, %**



* Difference between the monthly average of the 3-year bond yield on the primary market and inflation forecasts (as of end-2019 and end-2020 respectively).

Source: DekaBank, Refinitiv Datastream, Bloomberg, NBU`s forecast and estimates.

Figure 2.6.5. **Weighted average interest rates on new hryvnia loans and deposits, %**



Source: NBU.

source of the widening in the banking system's liquidity surplus. As is usual at the end of the year, government operations also contributed to the growth in the liquidity surplus. However, these operations, together with an increase in cash in circulation, were the main factors holding back liquidity growth in 2019 as a whole.

In Q4 2019, the yields on domestic government debt securities in hryvnia continued to decline sharply for all maturities. Apart from the key policy rate decreases that took place during that period and expectations of further cuts (read more in Box 3 *The Publication of Key Policy Rate Forecasts: Impact on Forward Rates* on page 31), the lower yields also resulted from the limited issuing of securities by the government amid persistent and strong demand for these securities from nonresidents. The demand was supported by attractive yields, in particular mid-term yields, of domestic government debt securities in hryvnia compared to those of other countries. As a result, the share of hryvnia securities with maturities of over one year held by nonresidents had by late December increased to 86%, with that of domestic government debt securities with maturities of over two years rising to 64%.

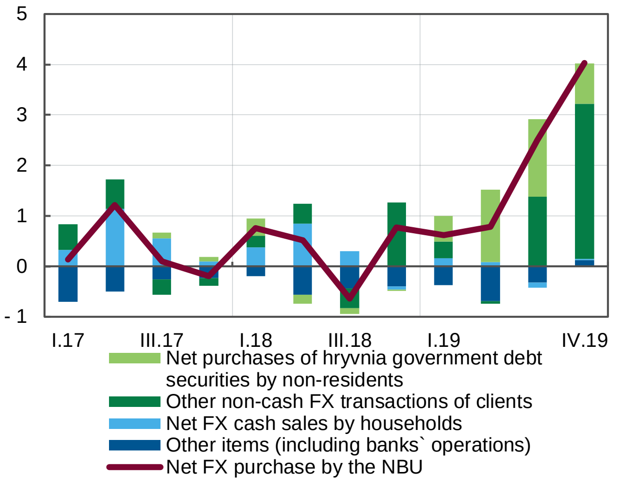
Interest rates on most hryvnia loans and deposits also decreased. Weighted average interest rates on loans to and deposits from nonfinancial corporations dropped at a significantly faster pace in Q4 2019. Bank interest rates on household loans and deposits moved more sluggishly because of the market and structural factors that slowed the monetary transmission mechanism. The weaker response of interest rates on household deposits to falls of other market rates can be explained by competition for funding among the Ukrainian privately owned banks, including competition with the domestic government debt securities market, and the reasonably inflexible price strategies of the state-owned banks. The state-owned banks de facto dictate their terms to other banks on the retail deposit market (read more in Chapter 3.3 *Risks Caused by a High Share of State Capital in the Banking Sector* in the December 2019 Financial Stability Report on page 31). Interest rates on hryvnia household loans rose slightly, due to persistent and robust demand for consumer loans.

In December, the NBU changed its reserve requirements for banks. Among other things, the central bank set the reserve requirement for hryvnia deposits at 0%. The new reserve requirements, which come into effect on 10 March 2020, mainly aim to decrease the dollarization of bank deposits. These requirements will also help reduce interest rates on hryvnia loans.

Appreciation pressures intensified on the FX market in 2019, on the back of an excess supplyof FX

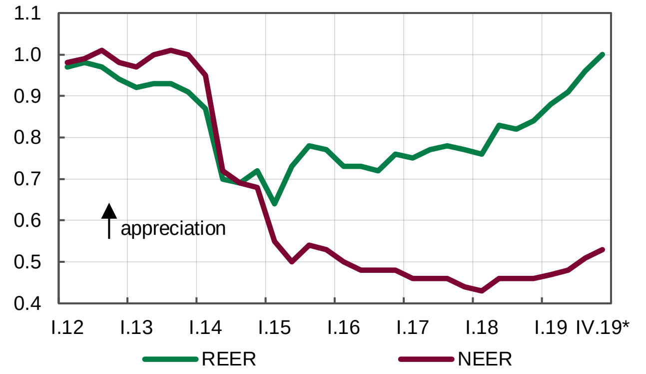
The official UAH/USD exchange rate strengthened by 14.5% in 2019. The hryvnia's NEER and REER appreciated somewhat more noticeably (by 18.3% yoy and 19.1% yoy respectively by late 2019), on the back of the moderate depreciation of the currencies of Ukraine's main trading partners relative to the US dollar, and the still higher inflation rate in Ukraine compared to that in the country's main trading partners.

Figure 2.6.6. **Determinants of net FX purchases by the NBU, USD bn**



Source: NBU staff estimates.

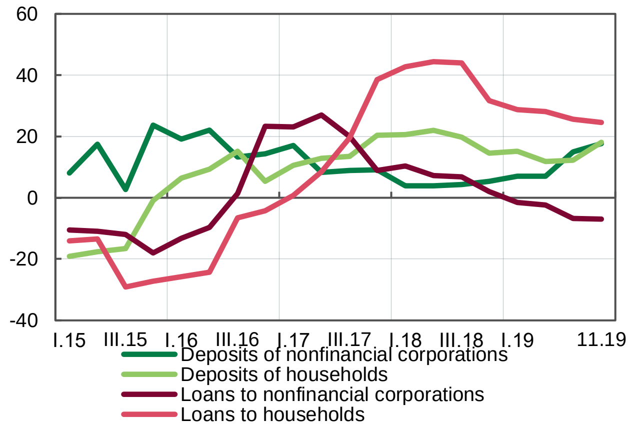
Figure 2.6.7. **Hryvnia REER and NEER indices, average, 12.2011=1**



* Preliminary data.

Source: NBU staff estimates.

Figure 2.6.8. **Hryvnia deposits and loans, % yoy**



Source: NBU.

The hryvnia strengthened due to the FX supply exceeding demand. This in turn was caused by receipts of the FX earnings of export-oriented sectors (the agricultural sector and the metallurgy and mining industries) and relatively moderate import payments. Significant borrowing by the government and private sectors also played a role. This enabled the NBU[16] to replenish its international reserves further, and to gradually liberalize the FX market.

In Q4 2019, the NBU cancelled the limit on households' FX purchases and investment metals, together with the requirement to provide the grounds for the purchase of foreign currency. In that same quarter, the NBU also increased the e-limits on some transactions that involve money transfers. Overall, the NBU cancelled over 30 FX restrictions in 2019.

The NBU purchased USD 4 billion on the interbank FX market in Q4 2019, and USD 7.9 billion overall in 2019. Non-resident investment inflows s' in domestic government debt securities in hryvnia accounted only for one fifth of the NBU's interventions in Q4 and for about one half over the whole of 2019.

Hryvnia deposits and consumer loans continued to grow at a fast pace

In Q4 2019, hryvnia deposits in the banking system continued to grow, accelerating markedly in annual terms in November, to 16.9% yoy. The robust growth in household deposits was propelled by a steady increase in wages and the attractiveness of hryvnia deposits, due to the stronger hryvnia and lower inflation. A rise in deposits of nonfinancial corporations was driven by an improvement in the financial performance of companies. These same factors, along with proceeds from the placement of Eurobonds by several companies, accelerated the growth in FX deposits (in the US dollar equivalent).

Hryvnia household loans – mainly car loans and other consumer loans – continued to rise at a fast pace. Strong demand for these loans was supported by improved consumer sentiment, due to, among other things, higher household income and an easing in the criteria for the approval of loan applications. In contrast, lending to nonfinancial corporations remained sluggish. This sluggish growth resulted from structural restrictions (such as the large percentage of nonperforming loans), which limited the pick-up in lending, and significant borrowing on the external markets by several real sector companies in H2. Reported lending volumes continued to be influenced by banks in liquidation no longer submitting reports, and by banks' repayment and write-offs of previously provisioned assets.

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[16] In December 2019, the NBU again increased its daily planned FX purchases (from USD 30 million to USD 50 million) in order to replenish international reserves.

Box 3. The Publication of Key Policy Rate Forecasts: Impact on Forward Rates

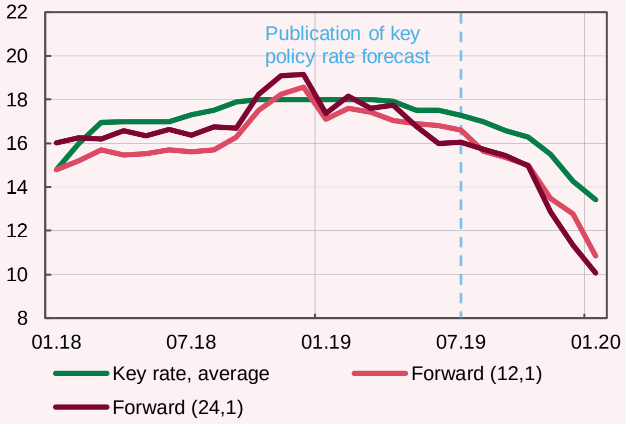
Market participants' expectations of interest rate movements play an important role in monetary policy transmission. Implied forward rates show that in 2019 market participants' interest rates expectations were rather sluggish – actually, they responded only to current changes in the NBU key policy rate. The situation changed after the NBU published its key policy rate forecast. The resulting decrease in uncertainty helped lower market participants' expectations, especially those for the medium term.

The NBU's main monetary policy instrument – the key policy rate – has a direct effect only on current short-term rates. However, for monetary policy decisions to have an effective impact on the economy, it is important that there is a response of expectations and long-term rates. It is expectations and long-term rates that determine the cost of capital and that have the strongest impact on real sector development, by influencing lending and investment decisions.

Since the forward rate agreements are practically non-existent in Ukraine, there is no explicit indicator for measuring market participants' expectations of the future trajectory of interest rates. This box presents estimates of money market participants' interest rate expectations derived from the yield curve of hryvnia domestic government debt securities (Figure 2.6.3) under the arbitrage-free assumption.[17]

In early 2019, implied forward rates (Figure 1) decreased, albeit moderately. Moreover, these rates were practically equal to the current key policy rate, even after the NBU announced that it had begun a monetary easing cycle. The high medium-term forward rates (16%–17%) seen in June indicated that market participants had overestimated the tightness of future monetary policy.

Figure 1. **NBU`s key policy rate and forward rates,[17] %**

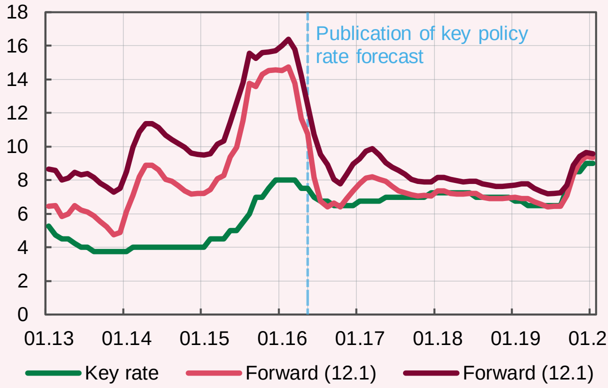


Source: NBU staff estimates.

Seeing the proper conditions for further key policy rate cuts, in July 2019 the NBU started publishing its key policy rate forecasts. As uncertainty about the future monetary policy stance reduced, market participants, as expected, also adapted their expectations of future interest rates on financial instruments. This is also evidenced by results from surveys of financial analysts. In June 2019, financial analysts expected that the key policy rate would drop to 14.5% in a year, while in August, they already anticipated that it would fall to 13.0% (down by 1.5 pp). That was despite the fact that in July the key policy rate was cut by only 0.5 pp.

A decline in market expectations after the launch of the practice of publishing key policy rate forecasts was to be expected, as evidenced by positive international experience (read more in Box 5 *Publication of Key Policy Rate Forecasts* in the July 2019 Inflation Report on page 47). For instance, in Georgia it was the May 2016 publication of a key policy rate forecast that pushed forward rates very close to the key policy rate (Figure 2).

Figure 2. **Key and forward interest rates in Georgia, %**



Source: National bank of Georgia, NBU staff estimates..

Apart from the publication of NBU key policy rate forecasts, nonresidents' stronger interest in domestic government debt securities in hryvnia also played a role in decreasing forward rates in 2019. Econometric studies (Ebeke and Lu, 2014) show that foreign holdings of local bonds usually decrease interest rates, but can also increase their volatility. Interest rates are significantly less volatile when macroeconomic stability is maintained, a prudent fiscal policy is conducted, and government debt is managed sensibly, including with a view to extending the debt's maturity and involving domestic investors.

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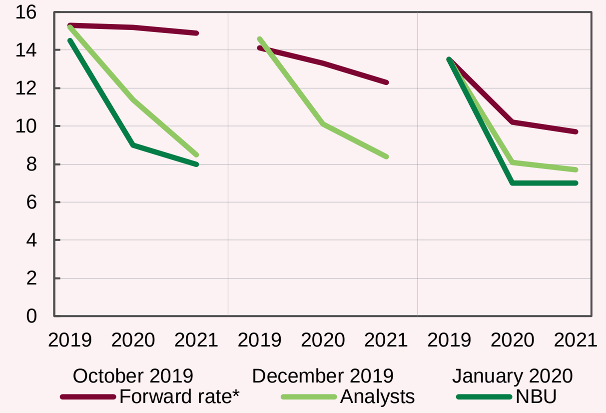
[17] The forward rate (*x*,*y*) refers to the yield of a financial instrument with maturity *y* in *x* months. For instance, the yield of a forward contract with a forward rate of 12.1 (a one month forward contract that will be executed in 12 months), makes it equally attractive for investors to invest on the spot for 13 months at a spot rate of 0.13, or invest for 12 months at a spot rate of 0.12 and then for one more month at a forward rate of 12.1.

Figure 3. Forward rates, expectations of financial analysts and NBU`s forecast of key policy rate, % eop



* Estimated forward rate with a 1-month maturity based on hryvnia domestic government debt securities yield curve.

Source: NBU staff estimates.

Although declining markedly, Ukrainian forward rates in January 2020 remained above financial analysts' expectations of the key policy rate and the NBU's forecast (Figure 3). Apart from expectations of short-term rates, another component of forward rate is the term premium (Horváth et al., 2014). The term premium increases with the maturity, due to a natural increase in uncertainty over time, and to there being a practically non-existent market in Ukraine for financial instruments, apart from domestic government debt securities.

Steady economic growth, predictable and low inflation, and financial market development will help push down long-term interest rates. In particular, a consistent monetary policy will bring inflation down and stabilize it around its 5% target. This will affect long-term interest rates, as these rates are driven by inflation expectations. The implementation of the Strategy of Ukrainian Financial Sector Development until 2025 will help deepen the financial market, expand its liquidity, and increase its investor base. In turn, this will make for the more effective management of interest rate risk, while also decreasing interest rates on debt instruments issued by the government and private sectors.

Focus. Macroeconomic Effects of the Hryvnia Appreciation

The hryvnia strengthened significantly in 2019 against both the U.S. dollar and the basket of currencies of Ukraine's MTPs (for more details, see Section 2.6 *Monetary Conditions and Financial Markets* on page 28). Apart from seasonal fluctuations and short-lived post-crisis adjustments in the exchange rate, the appreciation of the domestic currency is a relatively new phenomenon for Ukraine. As with any developments in an economy or elsewhere, its effects cannot be viewed as exclusively positive or negative.

The experience of countries that have successfully lowered inflation after introducing inflationtargeting regimes and undergone periods of the strengthening of their currencies indicates that negative effects of currency appreciation amid consistent macroeconomic policies are mostly short-term. At the same time, the advantages have a long-term effect and promote sustainable economic growth.

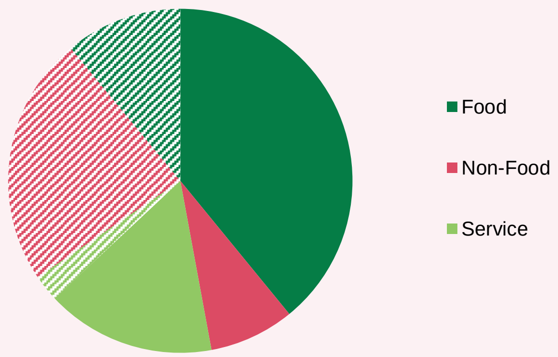
On the one hand, the hryvnia strengthening was the main factor that brought inflation down to the target level of 5% ± 1 pp (for more details, see Box 1 *Inflation Forecast Assessment* on page 13). In turn, low and stable inflation is precisely the prerequisite for long-term growth, as lays the required foundations for business planning and greater savings. On the other hand, the appreciation of the domestic currency explains lower hryvnia proceeds from exports, and has led to a loss of budget revenues, but these effects are not unambiguous either.

The stronger hryvnia has also reduced the cost of imported raw materials and – most important – the cost of investment imports, while Ukraine's foreign trade position has not deteriorated. Ukrainian companies have become more competitive in the labor market, which is important in view of the country's considerable labor migration. The strengthening of the hryvnia, together with a prudent fiscal policy, was among the reasons for the rapid decline in the ratio of public and publicly guaranteed debt to GDP. This ratio affects external investors' perception of risks and the formation of sovereign ratings. The decrease in this ratio thus also contributed to the inflow of external portfolio investments, which in turn made it possible to reduce the cost of servicing the new debt and to improve its currency composition.

The hryvnia appreciation contributed to a rapid slowdown in consumer inflation, which reached the 5% target despite significant pressure from consumer demand

Exchange rate changes have the most significant impact on imported goods or domestic goods and services that use imported inputs in their production. These goods and services account for more than a third of the total consumption basket, according to NBU estimates.

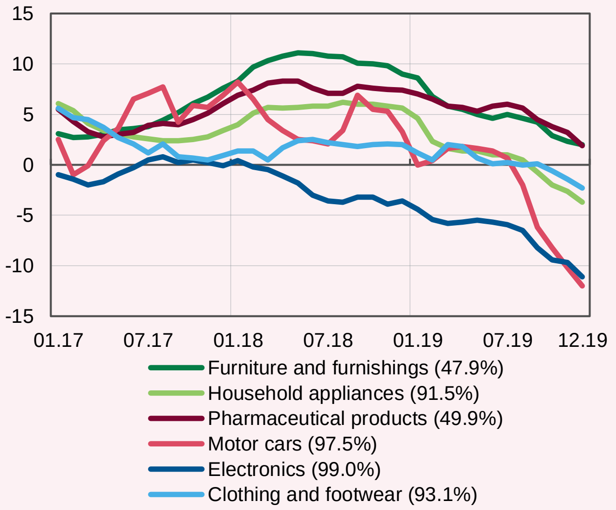
Figure 1. **The share of imported goods * in the structure of the CPI consumer basket for 9 months of 2019**, %**



* Shaded areas correspond to the share of imported goods and services.
** Data for food and non-food products from the SSSU (commodity structure of retail trade turnover of enterprises), data on imports of selected goods in the 1H 2019 from the SFS, data for services from the SSSU (input-output tables on share of imports in final consumer expenditures by economic types activities for 2017).
Source: SSSU, SFS, NBU staff estimates.

For instance, footwear produced outside of Ukraine accounted for 95% of all footwear sold by Ukrainian retailers in the first nine months of 2019, according to SSSU data. For clothing, the figure was 92%. It is thus only natural that prices for this group of goods and services fell by 2.3% yoy in December (Figure 2). Another group of merchandise comprises durables (cars, furniture, home appliances, etc.), most of which are imported. In December 2019, prices for this group of goods also were 2.1% lower than a year ago, while some of them, such as prices for cars and electronic devices, declined by 11%–12% yoy, according to SSSU data.

Figure 2. **Changes in prices for selected non-foods, % yoy (figures in brackets denote their import shares in the domestic market in 1H 2019, %)**



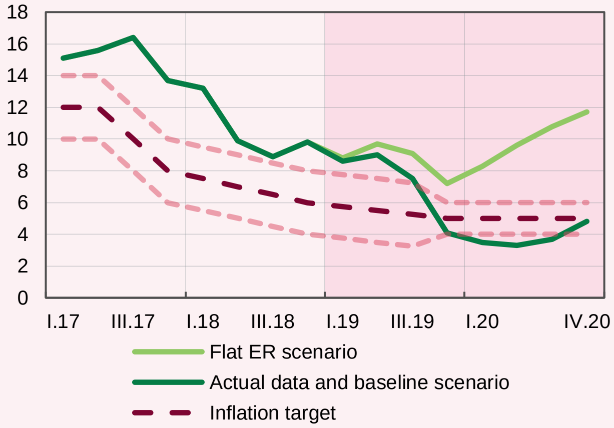
Source: SSSU, NBU staff estimates.

Energy prices in 2019 decreased significantly. Although the decrease in natural gas prices can primarily be attributed to a significant fall in prices in the European market, the appreciation of the hryvnia substantially strengthened this effect (Figure 2.1.7). The stronger hryvnia had a two-fold effect on fuel prices: the hryvnia cost of oil products decreased, and the share of taxes in the price shrank (excise taxes on fuel are set in euros).

Due to the prevailing effect of domestic factors, the hryvnia appreciation has a lesser impact on food prices and the cost of services. Thus, food prices in Ukraine primarily depend on crop yields, while the lion's share of the cost of services is the cost of labor. However, prices for certain items in the food and services categories respond strongly to exchange rate fluctuations. Prices of rice, olive oil, herring, and dried fruit, most of which is imported, have fallen over the past year. Prices for cinema tickets, internet services, dental services, housing rentals, and tourist services grew slowly (the cost of the last two items is closely correlated with the exchange rate).

If the hryvnia exchange rate had been pegged at UAH 27 against the dollar starting in April 2019, inflation would have far exceeded the target range (Figure 3) not only until late last year, but also in 2020, according to simulations based on the quarterly projections model (read more in Box 4 *The Quarterly Projections Model to Guide Monetary Policy Decisions* on page 43).

Figure 3. Modelling inflation in 2019–2020 for the case of the hryvnia exchange rate held constant at UAH 27 against U.S. Dollar from April 2019



Source: SSSU, NBU staff estimates.

Under that scenario, real GDP would have grown faster, but only by 0.1 pp and 0.3 pp in 2019 and 2020, respectively, driven by temporary gains for exporters. This boost would nonetheless have died away quickly, and the economy would have suffered losses in the long run. Above-target inflation and a change in the behavior of the central bank would have prevented it from anchoring inflation expectations. As a result, the key policy rate would have remained at high levels for longer, preventing a reduction in lending interest rates. Short-term gains from lower prices would have been worn away by higher inflation and a strengthening of the REER.

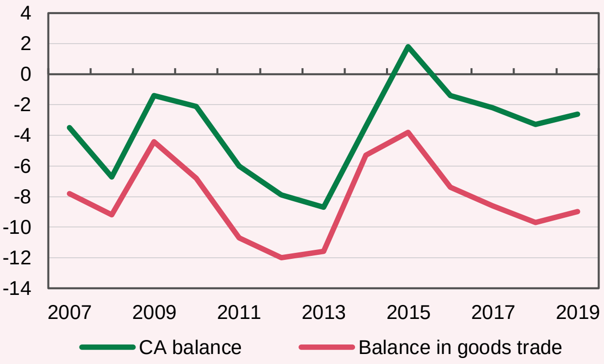
The hryvnia appreciation corresponds to the state of the economy

A country's balance of payments reflects how its domestic economy is positioned against the rest of the world. If the country imports more goods and services than it exports, a trade deficit arises. As a result, a current account deficit is formed that needs to be financed, despite a cumulative surplus in the primary and secondary income accounts (including remittances, dividend payments to external investors, and debt repayments). This deficit can be covered using external debt financing and investment resources (through transactions that are recorded in the financial account of the balance of payments) or with the country's international reserves.

Accordingly, large current account deficits are regarded as negative phenomena. This is due to the fact that in some cases, a significant current account deficit may indicate macroeconomic policy missteps, such as an overvaluationof the domestic currency. If allowed to accumulate, these imbalances will eventually require macroeconomic policy adjustments. Otherwise the economy will be hit by crises – something Ukraine has experienced twice in the past ten years. Accordingly, the strengthening of the hryvnia, which negatively affects the price competitiveness of exporters and, conversely, reduces the cost of imports, raises concerns about the weakening of Ukraine's external position.

However, the current account deficit narrowed in 2019, even without taking into account the compensation paid by PJSC Gazprom, and remained sustainable (3–4% of GDP), actual data shows. Exports and imports of goods grew at almost comparable rates (6.4% and 7.1%, respectively), while the deficit in the trade in goods slightly exceeded last year's levels in dollar terms, and narrowed relative to GDP (Figure 4).

Figure 4. CA and merchandise trade balances*, % GDP

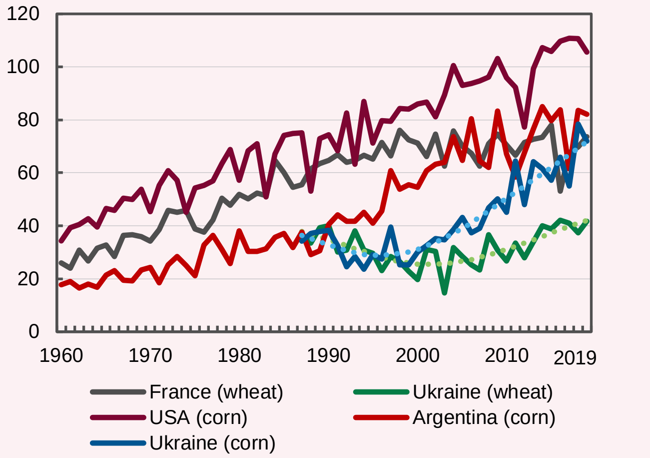


* BPM5 data until 2009, in 2019 - w/o compensation from Gazprom.
Source: NBU, SSSU, NBU staff estimates.

Without a doubt, the significant decrease in energy prices in the current year contributed to a decrease in the value of natural gas and petroleum purchases, which make up a large part of Ukraine's imports. However, prices for Ukraine's main exports (grains, ferrous metals) also declined, while exports increased on the back of an increase in volumes, in particular due to higher productivity.

Agriculture sector productivity, particularly in crop production, increased most notably. Specifically, the average wheat and corn yields in 2011–2019 increased by 33% and 56%, respectively, compared to 2001–2010, bringing Ukraine closer to the global leaders in the production of these crops (Figure 5).

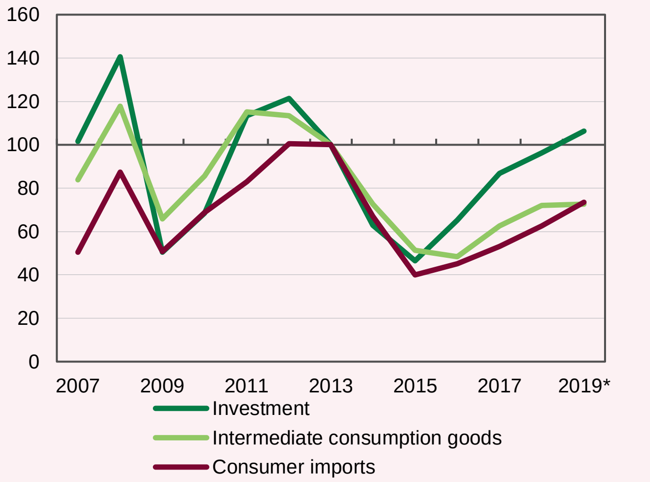
Figure 5. **Wheat and corn yields in selected countries, centners/ha**



Source: USDA, SSSU, NBU staff estimates.

The main factors behind the increase in productivity were the rational use of fertilizers, the use of grain varieties and hybrids that are more productive and resistant to adverse weather conditions and diseases, and significant investment in the purchase of agricultural machinery in 2016–2017. Thus, the bumper harvests of grains in 2018–2019 were not solely the result of benign weather conditions. This leads to the conclusion that these crops have become a steady source of exports and FX inflows to the country.

Figure 6. **Merchandise imports by broad economic categories, 2013=100**



* Projections based on Jan-Nov data.
Source: NBU staff estimates.

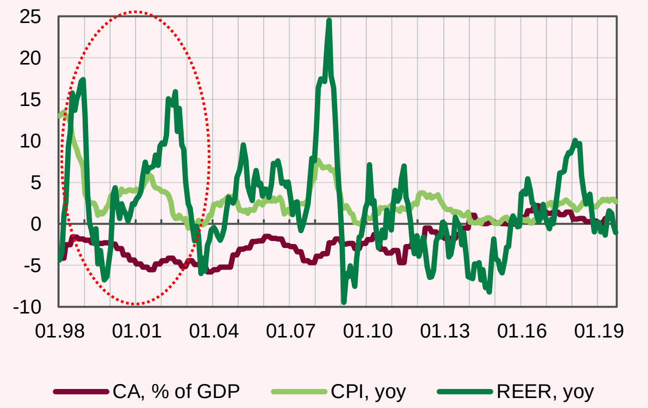
The strengthening of the hryvnia did not accelerate the growth in consumer imports the way it did in the pre-crisis years of 2008 and 2011–2012. During 2019, its growth rate remained at around 20% yoy. Investment imports also grew at a relatively high rate (by about 15% in the first three quarters of the year, decelerating somewhat in October–November due to a higher comparison base, resulting from higher imports of equipment for renewable energy sources in late 2018).

Periods of currency appreciation can occur without worsening a country's external accounts, the experience of Ukraine's neighbors shows

One of the factors behind the strengthening of a currency is the growth in the economy's productivity in what is known as the Balassa-Samuelson effect, according to economic literature (for example Gregorio and Wolf, 1994). Productivity gains, in turn, result from the convergence of prices and wages between trading countries and from structural and technological changes.

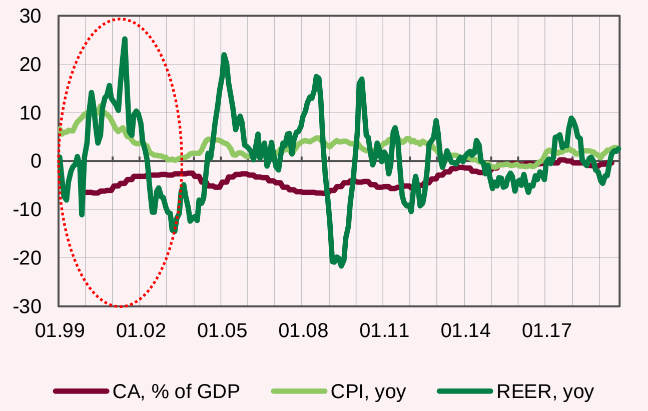
The Czech Republic and Poland, for instance, have each seen a rather long period of currency appreciation following the introduction of inflation targeting. The new monetary regime has become clearer and more transparent to both domestic and foreign investors, contributing to increased investments and technological upgrades. Both of these countries had a clear strategy for further development, which became an additional growth driver. The strategies included step-by-step structural reforms in the areas of pricing, taxes, the institutional capacity of the authorities (including that of the central bank), debt reduction, etc. In the longer run, all of this has led to an increase in the export potential and a narrowing of the current account deficits in these countries (Figures 7 and 8).

Figure 7. **Czech Republic: REER, CPI and Current Account (12-m rolling)**



Source: IFS IMF.

Figure 8. **Poland: REER, CPI and Current Account (12-m rolling)**

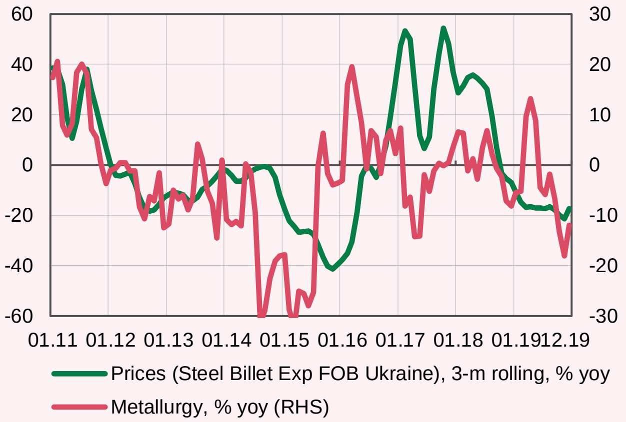


Source: IFS IMF.

Exporters' losses from the hryvnia appreciation were significantly lower compared to losses from the worsening of external conditions

Ukrainian industry is dominated by mining and metallurgical companies (with metallurgy, mining, and coke production jointly accounting for almost a third of industry as a whole[18]). However, despite the fact that Ukraine is among the top 15 steel producers, Ukrainian exporters have no influence on global prices (meaning they are price takers). Given that these sectors are commodity-oriented and that commodity prices are known to be more volatile than prices for high value-added goods, the performance of these sectors also shows significant volatility.

Figure 9. **Growth rates of metallurgy in Ukraine and external prices for Ukrainian steel semi-finished products**

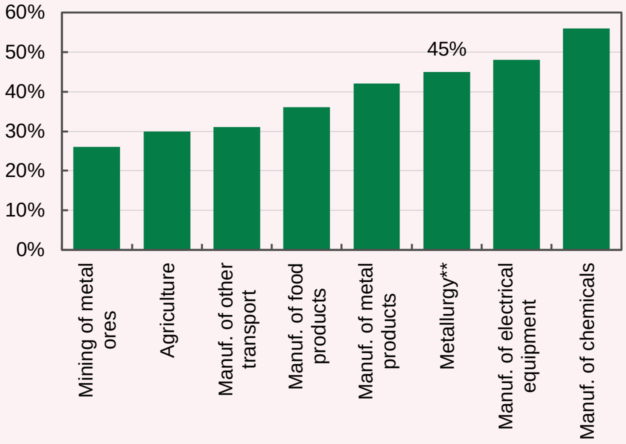


Source: SSSU, Refinitiv Datastream.

The weak performance of metallurgy was a major contributor to the decline in industrial production in 2019. Most of the deterioration in the performance of metallurgy was in turn due to unfavorable external conditions. Prices for various types of steel declined in 2019 by an average of 15–20%, with export prices for Ukrainian metals declining by an average of USD 60–70 per tonne compared to the previous year. Based on quarterly changes in both the prices and volumes of ferrous metal shipments, Ukrainian metallurgical exports fell by more than USD 1 billion in 2019 amid lower global prices.

The strengthening of the hryvnia only increased this effect. More specifically, holding the exchange rate constant at UAH 27 against the U.S. dollar starting in April 2019, losses from the hryvnia appreciation reached UAH 9.3 billion in export revenues. However, a considerable portion of inputs used in the production of metallurgical products are imported, as are the inputs that go into the manufacturing of other products made from imported goods (Figure 10). Metallurgical producers thus saved UAH 4.2 billion on cheaper imports (taking into account second-round effects). Accordingly, the losses from the appreciation of the hryvnia were thus several times lower than the losses from price decreases.

Figure 10. **Import content of exports by selected types of economic activity in 2017 (incl. secondary effects), %**

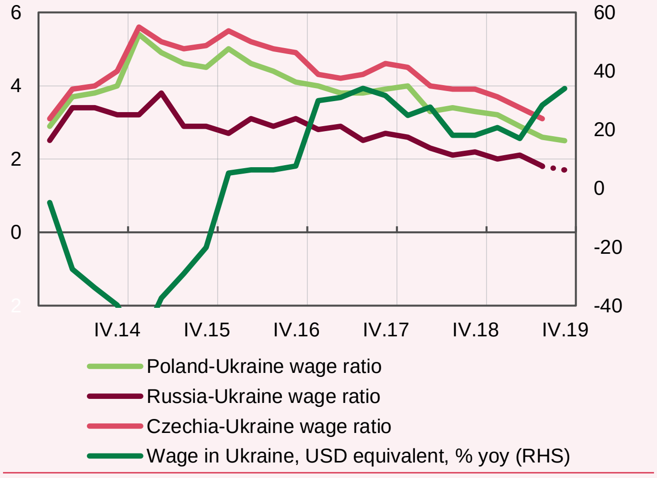


* Incl. manufacture of railway locomotives and rolling stock.
** Covers production of base ferrous and nonferrous metals.
Source: SSSU, NBU staff estimates.

The stronger hryvnia has given Ukrainian companies a hiring advantage

Over the past few years, the labor market has experienced a shortage of blue-collar workers, which was driven by labor migration, among other things. Higher wages abroad are what drive the migration of Ukrainian workers, sociological surveys have found. The higher the ratio of wages abroad to wages in Ukraine, the greater Ukrainians' interest in working abroad. In recent years, this ratio has been declining due to wage increases in Ukraine (Figure 11). In 2019, the effect of this factor increased due to the strengthening of the hryvnia.

Figure 11. **Net wages in selected countries and Ukraine, ratio, and wage growth in Ukraine**



* Dotted lines show averages for October – November.
Source: statistical agencies and central banks of respective countries, OECD.

As a result, Ukrainians' interest in working abroad fell during the year, except for those looking for jobs in Germany (Figure 12). The latter was due to an easing of employment conditions for non-EU workers, which is to be introduced in March 2020. At the same time, despite the conditions being

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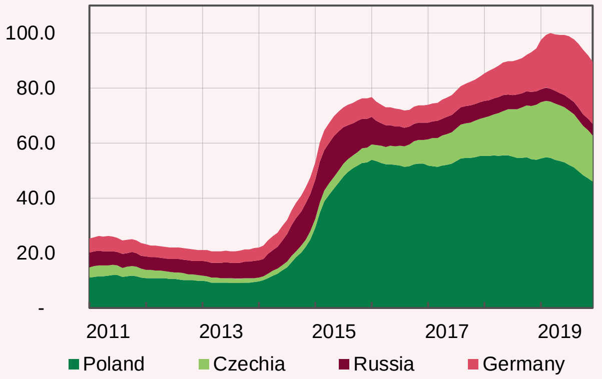
[18] These calculations are based on sales volumes in relevant industrial sectors in 2019.

more favorable and Ukrainians increasing their interest in finding employment in Germany, we estimate that there is only a moderate risk that labor migration to that country may increase, since the key barriers to employment – the need to prove qualifications and language skills – remain in place.

Figure 12. Migration Sentiments Index (12-m rolling)*



* The Index is constructed from Google Trends data based on search inquiries from Ukraine. Search inquiries are entered in Ukrainian, Russian, and in respective country language (e.g. in Polish "praca w Polsce"). The last maximum of search activity is set to 100 (March 2019).

Source: Google Trends, NBU staff estimates.

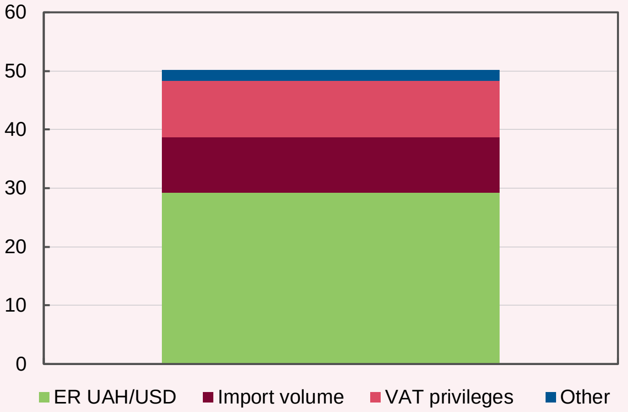
The impact of the stronger hryvnia on the state budget has been ambiguous: while import revenues have declined, there have been savings on FX expenditures and gains from an improved perception of risk by investors

The strengthening of the hryvnia has indeed weighed on budget revenues, as import taxes account for almost 40% of overall state budget revenues. However, the stronger hryvnia explains only about half of the underperformance of tax receipts (Figure 13), the NBU estimates. The rest was driven by:

- flaws in other macroeconomic assumptions and projections underlying the budget: the fall in the production of excisable goods (tobacco products) and natural gas, the lower price of imported natural gas, and the slower growth in imports;
- the introduction of VAT exemptions for imports of equipment for renewable energy sources, which were not taken into account when the 2019 budget was drafted, the repayment in early 2019 of VAT that was not refunded during the previous year, and imports of natural gas under a “customs warehouse” regime.

On the other hand, the stronger hryvnia than assumed in the budget has brought in savings on FX debt repayments and on budget expenditures on imported goods and services (e.g., purchases of medicines). As a result, “net” losses to the state budget (total losses minus the savings on debt repayments and expenditures noted above) in 2019 amounted to about UAH 23 billion or 2.3% of state budget revenues.

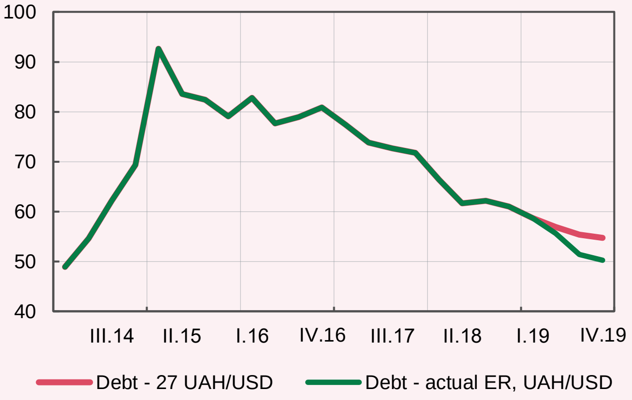
Figure 13. Underperformance in tax proceeds to the general fund of the state budget by factors in 2019, UAH bn



Source: Treasure, MFU, NBU staff estimates.

The strengthening of the hryvnia also had positive consequences for the budget sector. Coupled with a prudent fiscal policy, the stronger hryvnia contributed to a more rapid decline in the ratio of public and publicly guaranteed debt to GDP (Figure 14). This ratio affects the perception of risks by external investors and the formation of sovereign ratings. This contributed to inflows of foreign portfolio investments to the public sector, making it possible to reduce the cost of servicing the hryvnia public debt, extend its maturity, and improve its currency composition. Also, external borrowing by the real sector was record high in 2019, thanks to improved investor sentiment and benign financial conditions (Figure 2.5.6.).

Figure 14. Public-and-publicly-guaranteed-debt-to-GDP, ratio under different scenarios for ER hryvnia to US dollar



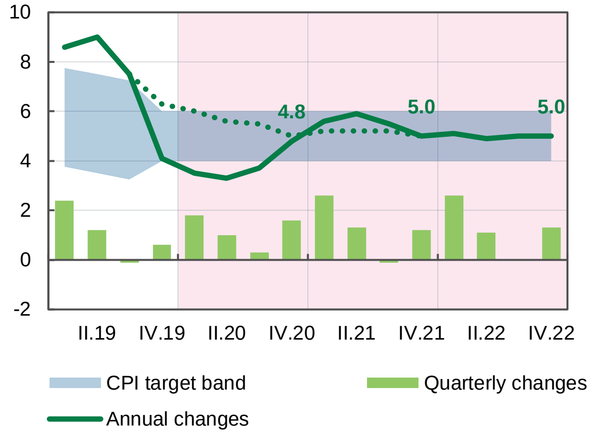
Source: Treasure, NBU staff estimates.

Part 3. Economy of Ukraine: Forecast[19]

3.1. Inflation Developments

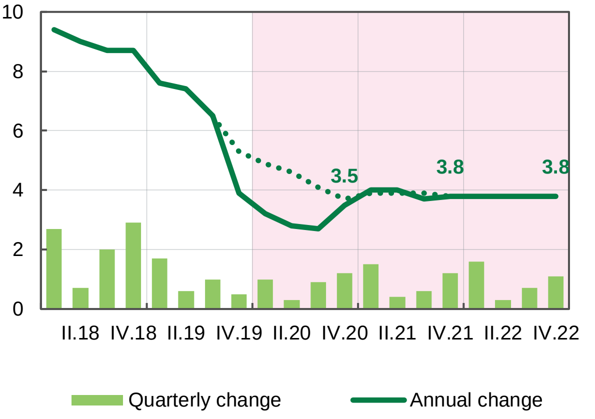
- Underlying inflationary pressures in 2020 will be weak due to the lasting effects of the hryvnia appreciation seen in 2019. Inflation will thus be below the 5% ± 1 pp target range for most of the year.
- Thanks to the monetary policy easing and strong domestic demand, inflation will return to its target range at the end of 2020 (4.8%) and will remain close to its 5% target in the coming years.

Figure 3.1.1. CPI, %



Source: SSSU, NBU staff estimates.

Figure 3.1.2. Core inflation, %



Source: SSSU, NBU staff estimates.

Inflation will continue to slow in early 2020, but will return to its target range at the end of the year and remain close to the 5% target further on

The strengthening of the hryvnia exchange rate observed over the past year will support the disinflationary trend early this year, primarily through the channel of imported inflation and lower inflation expectations. An increased supply of food products and decisions to set up certain utility rates will also curb inflation this year.

As inflationary pressures decline, the NBU will continue to ease its monetary policy. This will return inflation to its target range of 5% ± 1 pp by the end of this year (4.8%). Inflation will then hover around the medium-term target of 5%. A prudent fiscal policy, relatively low global energy prices, and increased productivity of the Ukrainian economy will help maintain low and stable inflation by.

Underlying inflationary pressures will ebb, which will allow the NBU to ease monetary conditions

In 2020, underlying inflationary pressures will continue to subside against the backdrop of a strong real exchange rate of the hryvnia and improved inflation expectations. This will have the largest impact on prices of clothing and footwear, durable goods, and goods with a high share of imported inputs. Market services prices in which labor costs make up the largest share will remain the key driver of core CPI growth, as wages continue to grow at a fast clip.

Looser monetary conditions will bring core inflation to about 4% in 2021–2022. This will be additionally supported by further growth in real household income. On the other hand, imported inflation will remain low over the forecast period due to steadily low inflation in Ukraine's MTPs and decreased exchange rate volatility.

Food inflation will remain low thanks to improved fruit and vegetable harvests

Raw food inflation will continue to decline in H1 2020, despite the still-high volatility of prices of some food products. This will be due to the waning of the effect of supply shocks from last year's smaller harvest of some crops. Raw food inflation will thus be 3–4% at the end of 2020 and in the following years, provided there are no significant supply shocks on the domestic and global markets. An increase in food supply on the back of improved agricultural productivity, coupled with relatively stable global prices, will be the main factors

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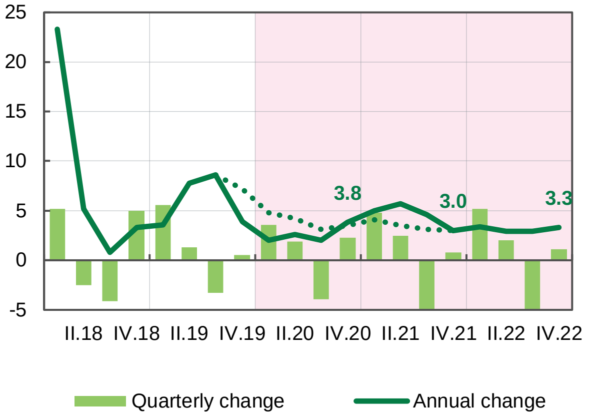
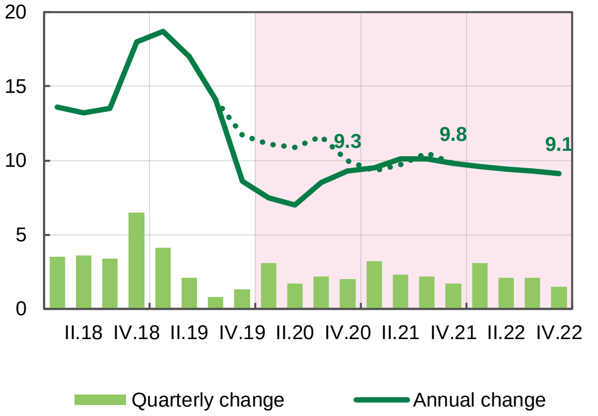
[19] Unless specified otherwise, a dashed line in the figures indicates the previous forecast.

Figure 3.1.3. Raw food inflation, %



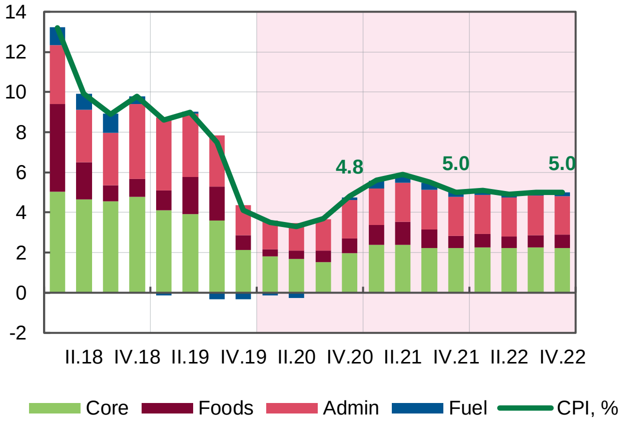
Source: SSSU, NBU staff estimates.

Figure 3.1.4. Administered price inflation, %



Source: SSSU, NBU staff estimates.

Figure 3.1.5. Contributions to annual CPI growth by main components, pp



Source: SSSU, NBU staff estimates.

restraining raw food inflation. However, prices will continue to grow at a moderate pace, supported by further increases in nominal and real household incomes.

Annual administered price inflation will range between 9% and 10% over the forecast horizon

In H1 2020, it will slow to 7% in annual terms due to the year-on-year decrease in natural gas and heating prices for households. Low gas prices on the European spot markets will contribute to this slowdown. Further on, domestic gas prices are expected to continue moving in line with import parity prices, which will determine seasonal fluctuations in gas prices for households. The rise in prices of other utilities will be driven to a large extent by wage increases at public utility companies.

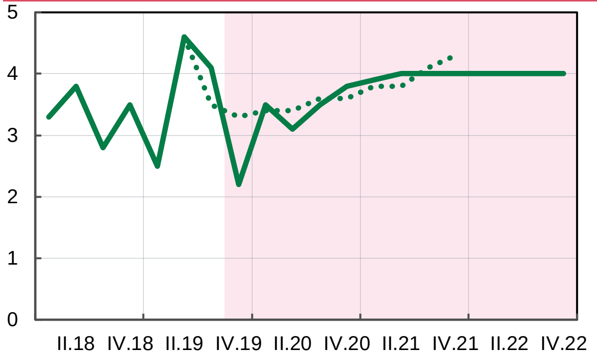
The largest contribution to administered price inflation will come from the further increase in excise duties on tobacco products that are envisaged in the Tax Code. As a result, tobacco products will rise in price by 13%–15% annually.

Fuel prices will grow by a mere 3.9% in 2020, thanks to relatively stable global prices of crude oil and moderate volatility of the hryvnia exchange rate. This will restrain headline inflation, including through influencing the prices of its other components. Subsequently, annual increases in fuel prices will be close to the rate of headline inflation.

3.2. Demand and Output

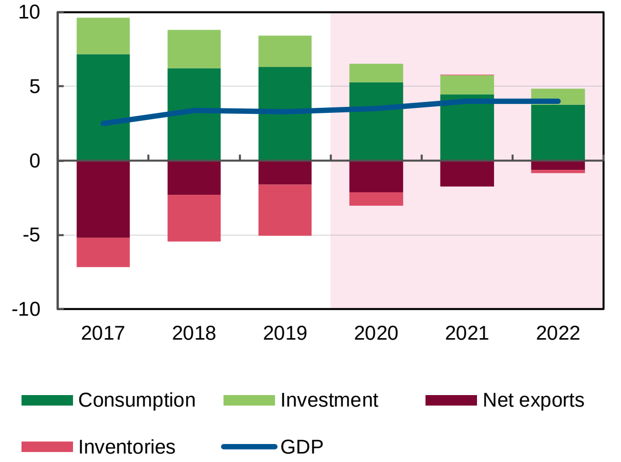
- Economic growth will accelerate to 3.5% in 2020 (up from 3.3% in 2019) and to 4% in the coming years, thanks to looser monetary conditions, an improvement in the investment climate, and the implementation of structural reforms.
- Private consumption and investment will continue to grow at a fast pace amid further growth in household incomes and the increased availability of credit.
- The contribution of net exports to GDP will remain negative due to the real sector's need for investment imports and robust consumer demand.

Figure 3.2.1. Real GDP, % yoy



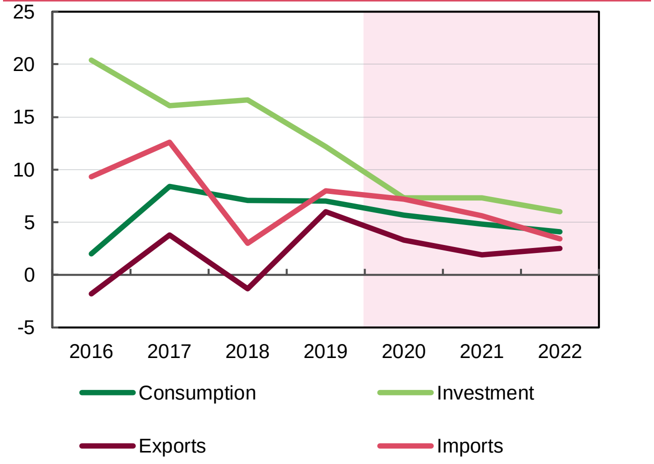
Source: SSSU, NBU staff estimates.

Figure 3.2.2. Contributions to real GDP growth, pp



Source: NBU staff estimates.

Figure 3.2.3. GDP components by final use, % yoy



Source: SSSU, NBU staff estimates.

Economic growth will accelerate to 4% in the coming years

Last year's abundant harvest of grains and sunflower seeds will support exports in H1 2020, and – together with the growth in private consumption – will drive GDP growth to 3.5%. Lower export prices for metallurgical products will restrain economic growth in 2020. The strengthening of the real effective exchange rate (REER) in 2019 will also temporarily reduce the price competitiveness of Ukrainian exporters, who will have to adapt to the new macroeconomic conditions. At the same time, a decrease in production costs amid lower inflation will gradually offset the effects of the currency appreciation.

With monetary policy easing, structural reforms, and the improved investment climate, economic growth will accelerate to the potential level of 4% in 2021–2022.

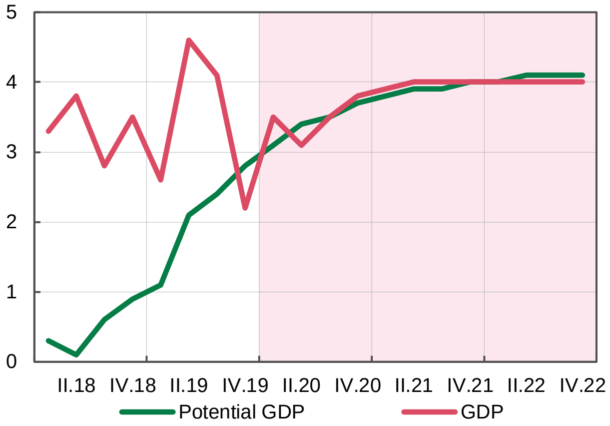
Over the forecast horizon, economic growth will largely be driven by the growth in private consumption, which is projected at about 7% in 2020, slowing to 5% in 2022. The growth in private consumption will continue to be fueled by real wages growing rapidly on increased labor productivity and the continuing shortage of skilled labor caused by mismatches on the labor market. Significantly looser monetary conditions will further encourage growth in lending activity and consumption.

Across GDP components, investment will continue to grow the fastest (6%–7%) due to the need to upgrade production facilities, renovate transport infrastructure, and invest in renewable energy. The introduction of the land market will create additional incentives to invest in agriculture and related industries. Investment activity will also be supported by growth in corporate lending, on the back of monetary policy easing and the improving investment attractiveness of Ukraine.

High demand for investment imports and moderately paced growth in exports will cause the negative contribution of net exports to GDP to persist.

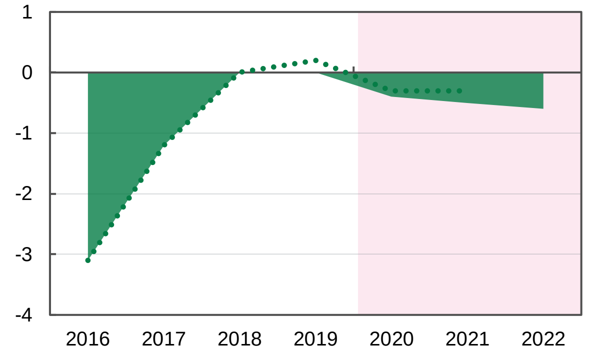
In 2020, the growth in physical exports will slow to 3.3%, primarily due to less favorable terms of trade for Ukrainian exporters, weak external demand for iron ore and metallurgical products, and reduced gas transit volumes. High grain yields and increased supplies of other food products will remain the factors driving growth in exports.

Figure 3.2.4. **Actual and potential GDP, % yoy**



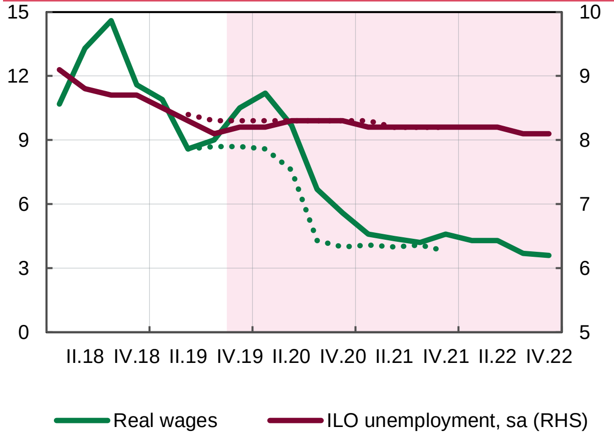
Source: SSSU, NBU staff estimates.

Figure 3.2.5. **Output gap, % of potential GDP**



Source: NBU staff estimates.

Figure 3.2.6. **Real wages, % yoy and ILO unemployment sa, %**



Source: SSSU, NBU staff estimates.

A decline in gas imports due to large stocks in storage will be the key factor behind the slower growth in imports in 2020 (7.2% versus 8% in 2019 according to the NBU's estimates). At the same time, the continued growth in real household income amid the strong REER of the hryvnia will feed into thesubstantial need for imports of investment and consumer goods. In future the growth in imports will slow further, in line with the slower growth in private consumption and the waning effects of the hryvnia appreciation.

The GDP growth forecast has not changed compared to the previous Inflation Report, but its individual components have been revised. In particular, the forecast for growth in private consumption and investment activity has been revised upwards, due to the faster monetary policy easing in 2020 and higher-than-expected growth in real household income. The forecast for imports was also revised upwards because of higher demand.

The output gap will be close to zero

Potential GDP growth will accelerate to 4% in 2020 and will stay at that level in the following years. Over the forecast horizon, the positive contribution made by capital and total factor productivity will be determined by the replacement of outdated equipment with more technologically advanced items. The productivity in the economy will increase as a result of a convergence to the levels of more economically developed neighboring countries.

The effect of the 2018 pension reform, which made the labor force contribute positively to potential GDP, will gradually disappear. Due to the natural decline in the population and persisting structural mismatches on the labor market caused by the shortage of workers, the contribution made by the labor force will be negative over 2021–2022.

The output gap will remain narrow over the forecast horizon. Inflows of foreign portfolio investments will make the hryvnia somewhat stronger than the equilibrium exchange rate, which – coupled with the slightly worsened terms of trade in 2020 – will push the output gap into negative values.

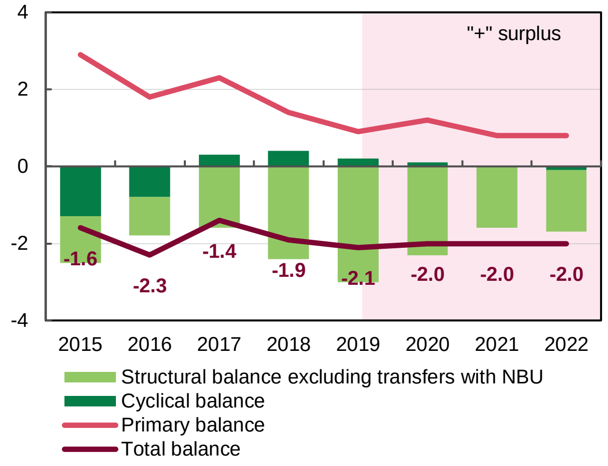
Real household income will continue to grow rapidly

Growth rates of nominal wages in Ukraine will be high, gradually declining over the medium term, driven by the labor market mismatches (among other things, caused by the overqualification) and high demand for labor. Together with low inflation, this will maintain rapid growth in real wages, which will rise by 8% in 2020 and grow more slowly afterwards.

As a result, the wage gap in Ukraine and its neighboring countries will gradually narrow, making labor migration less attractive and gradually smoothing out the mismatches on the local labor market.

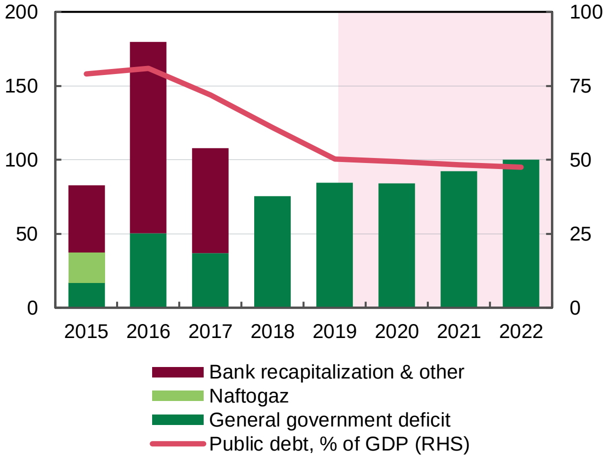
The unemployment rate will stabilize at approximately 8% (according to ILO methodology). Sizable wage increases and

Figure 3.2.7. Consolidated budget, % of GDP



Source: STSU, NBU staff estimates.

Figure 3.2.8. Broad public sector deficit, UAH bn, and public debt, % of GDP



Source: IMF, STSU, MFU, NBU staff estimates.

the need to earn pensionable service time to be eligible for a pension will create additional incentives for employment.

Fiscal policy will be close to neutral over the forecast horizon and will not put pressure on inflation

The general government deficit will remain at around 2% of GDP each year, largely financed by the government issuing hryvnia-denominated securities, which will continue to be in high demand among nonresidents.

With tax policy unchanged, the growth in general government revenues will slow to 6%–8% per year over the forecast period. This will be mostly driven by the low-inflation environment. Revenues from the PIT will grow the fastest of all tax revenues, due to the substantial growth in nominal wages.

Across budget expenditures, social spending will continue to show the highest growth rates. At the same time, capital expenditures will grow more slowly, which will be one of the reasons for a slowdown in investment activity and government consumption.

Public and publicly guaranteed debt will decline relative to GDP over the entire forecast period (below 50% of GDP) thanks to sustained economic growth, low exchange rate volatility, and the primary budget balance remaining positive. The currency composition of the public debt will improve: the share of foreign-currency debt will gradually decrease due to larger hryvnia borrowings on the domestic market.

Box 4.Quarterly Projection Model to Guide Monetary Policy Decisions[20]

Monetary policy decisions are based on the NBU's vision of the future state of Ukraine's economy. This vision draws on macroeconomic projections reflecting the impact of current decisions on future economic developments. The NBU uses its Quarterly Projection Model (QPM) to make macroeconomic forecasts and provide analytical support for its monetary policy decision-making. The QPM has been an integral part of the NBU's modeling toolkit since it switched to inflation targeting in 2015. This box describes the model's major components and properties.

What the model does

The model lays down an operational framework that enables the NBU to coherently analyze economic data and make macroeconomic forecasts. First: the QPM is used in medium-term forecasting. It has the capability to factor in the results of auxiliary calculations and expert judgements. Second: the model describes economic relationships, including the impact of monetary policy on the economy and inflation, making it possible to analyze a variety of policy options. Finally: QPM-based simulations allow NBU researchers to build alternative forecast scenarios to explore risks to the baseline forecast, their potential consequences, and the required monetary policy response.

Model description

The QPM is a semi-structural model of a small open economy with rational expectations. The model's equations reflect the fundamental laws of economic theory and statistical trends in observable data. These properties make the QPM a powerful and convenient tool that economists can use to build coherent economic narratives and when pursuing monetary policy objectives.

The model belongs to a broad class of QPM-type models that are being successfully exploited by many central banks and international institutions around the globe. These models are often called gap models, as they express real variables, such as GDP, in gaps – GDP gaps, for instance – which represent deviations from the stable long-term levels of these variables (e.g. potential GDP). Though standard in structure, the model employed by the NBU has properties that reflect specific features of the Ukrainian economy. These include the need to curb inflation, heterogeneous changes in consumer prices, poor confidence in monetary policy, a highly open economy, and dollarization.

Compared to the previously used version of the model (see Petryk and Nikolaychuk, 2006), the current version includes important extensions, such as the role of the labor market, a modification of uncovered interest rate parity, estimates of the neutral interest rate, and greater influence from global commodity markets.

In the QPM, monetary policy affects real variables in the short run, over a forecast horizon of up to three years. In the long run, however, the economy always approaches its stable growth rate when variables are at their natural levels, such as potential GDP or the natural rate of unemployment. Monetary policy does not affect the dynamics of these natural levels, and thus is neutral in the long term.

Model components

The model has four main components:

- *Aggregate demand* (a modified IS curve) – the QPM incorporates a number of factors, such as real interest rates, exchange rates, and foreign trade conditions, which affect net exports, consumer and investment demand, and government consumption.
- *Consumer inflation* (the Phillips Curve with rational expectations) – the QPM distinguishes between four major components of inflation: core inflation, administered prices inflation, fuel inflation, and raw food inflation. Due to their different nature, they absorb the influence of demand and supply factors differently, and each have a different imported element.
- The *nominal exchange rate of the hryvnia against the U.S. dollar* (a hybrid uncovered interest rate parity) – exchange rate movements depend on differences in yields on hryvnia- and FX-denominated financial instruments and also take into account a sovereign risk premium, the NBU's currency interventions, and Ukraine's terms of trade.
- A *monetary policy response function* (Taylor's rule with rational expectations) – the key policy rate in the QPM responds to the expected deviation of inflation from its target and to the GDP gap. When there are several conflicting goals, stabilizing inflation takes precedence over everything else. Market interest rates in the economy depend on the key policy rate.

Monetary policy transmission mechanism

The QPM models the impact of monetary policy on the economy through the following main channels: interest rates, the exchange rate, and inflation expectations. First: interest rates guide an economic agent's choices in investment and savings, thus driving domestic demand. Second: interest rates affect the exchange rate, which in turn influences the imported component of inflation. In addition, the exchange rate affects external demand, as it determines the relative prices of imports and exports. Aggregate demand puts pressure on prices. In addition, the QPM explicitly captures inflation expectations. Third: public confidence in monetary policy enables the central bank to anchor expectations to the inflation target and to reinforce the impact of interest rates.

The so-called impulse response functions, i.e. simulations of how major macroeconomic variables react to economic

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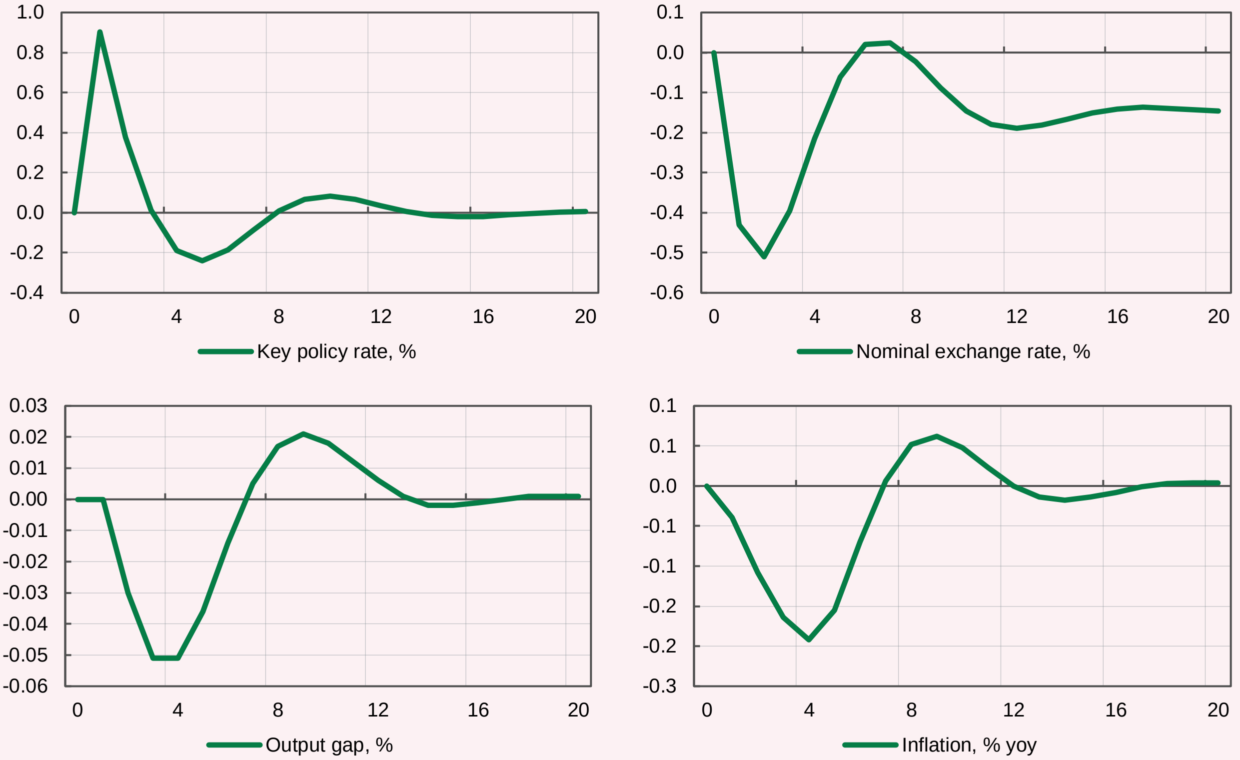
[20] Grui and Vdovychenko (2019) give a full description of the state-of-the-art macroeconomic model in their working paper.

Figure 1. Impulse response functions to a monetary policy shock



Source: Grui and Vdovychenko (2019).

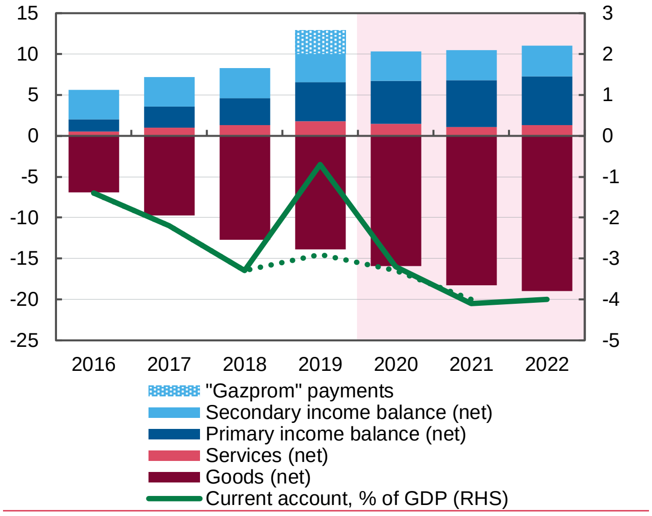
disturbances, or shocks, can be explored to investigate the properties of the model. Monetary policy shocks, for instance, are modeled as unanticipated increases in the key policy rate. The central bank quickly acknowledges the deviation from its policy rule and reverts to the rule in the next quarter. This simulation illustrates the so-called monetary policy transmission mechanism. All variables start out at their equilibrium levels. Their deviations from those levels are plotted in the figures. A higher interest rate strengthens the domestic currency and holds back aggregate demand. As a result, lower demand and a stronger domestic currency reduce inflation. The negative GDP gap and the fact that inflation is below target induce the central bank to ease its monetary policy, and so it cuts the interest rate. Afterwards, monetary policy is normalized. Impulse response functions show that the economy's reaction to the monetary policy shock is stretched out over time. The highest impact on inflation is achieved over a monetary policy horizon of 3–6 quarters.

The NBU periodically adjusts the QPM to account for the results of new economic studies or changes in how experts perceive the development of the Ukrainian economy. In addition, the monetary policy transmission mechanism is evolving, as the economy is still adapting to the new monetary policy regime and recovering from the crisis of 2014–2015.

3.3. Balance of Payments

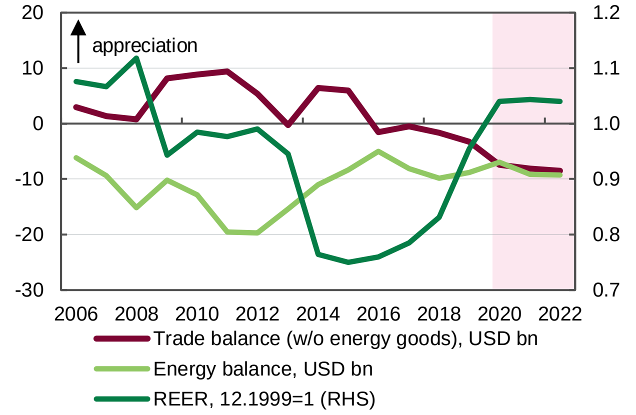
- Although widening in 2020–2022 due to, among other things, large volumes of investment and consumer imports, and a drop in gas transit, the current account deficit will remain sustainable (3% to 4% of GDP according to NBU estimates).This will be offset by greater capital inflows to the private sector amid an improvement in the investment climate.
- A new cooperation program with the IMF, official borrowing and nonresidents' sustained interest in hryvnia domestic government debt securities will drive up international reserves to 100% of the IMF composite measure.

Figure 3.3.1. Current account balance, USD bn



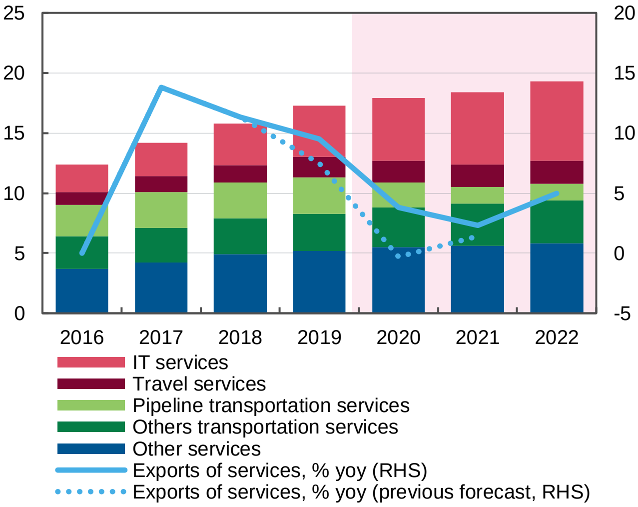
Source: NBU.

Figure 3.3.2. REER and trade balance



Source: NBU.

Figure 3.3.3. Exports of services



Source: NBU.

The current account deficit will remain at the sustainable level in 2020–2022

After narrowing in 2019, the current account deficit will widen, ranging from 3% to 4% of GDP in 2020–2022. The widening will result from a rebound in investment demand amid more robust economic activity, and stronger consumer demand fueled by real disposable income growth.

Export growth is expected to decelerate, from 6% yoy in 2019 to 2% yoy in 2022, on the back of a fall in iron ore prices and, consequently, lower volumes of iron ore exports, as well as depressed demand and low prices for ferrous metals. This will be partly offset by a rise in grain and oilseed prices. Exports will also be supported by an increase in the exports of food, and of wagons and rolling stocks to neighboring countries, as well as by high yields of agricultural crops.

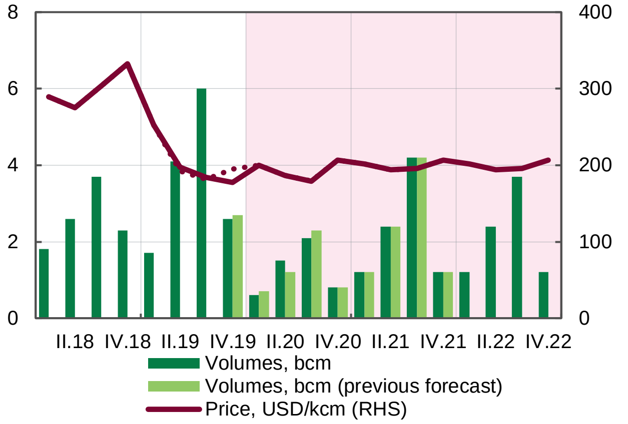
The growth in imports of goods will also slow, from 7% in 2019 to 3% in 2022. In 2020 there will be a decline in energy imports, while 2021 and 2022 will see a drop in non-energy imports. Gas imports are expected to decrease temporarily in 2020, to 5 bcm compared to 14.4 bcm in 2019, due to there being large gas stocks in gas storages. Gas imports are expected to rebound in the coming years, to 9 bcm a year.

In 2020, non-energy import growth will be the same as last year (12%). An increase in households' purchasing power will fuel further growth in consumer imports, mainly imports of food, cars and household appliances. The hryvnia's strong REER and the corresponding drop in the cost of imported investment goods, together with the need to upgrade fixed assets, will boost demand for investment imports. In 2021–2022, non-energy import growth will decelerate to 3%–4%, as appreciation effects fade away and real disposable income growth slows. Meanwhile, investment demand will remain buoyant.

Exports of services will increase at a slower pace in 2020–2022 in the wake of the expected decline in gas transit. Meanwhile, exports of IT services will continue to rise, due to wages in the IT sector remaining relatively high. Growth in imports of services will be largely propelled by higher imports of transportation and travel services.

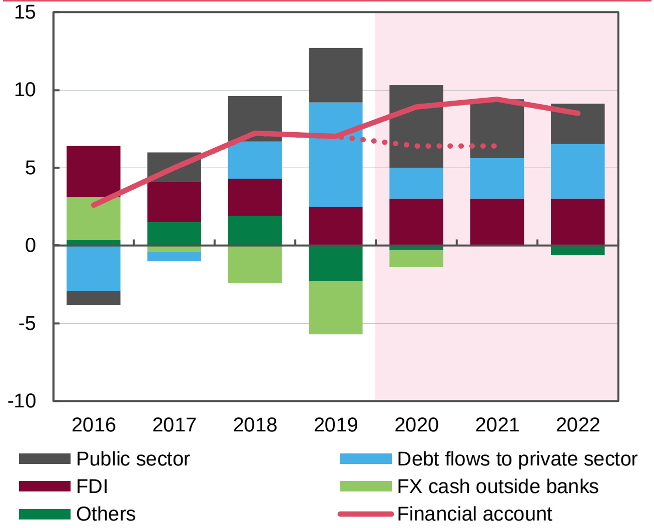
Primary and secondary income surpluses will widen over the entire forecast horizon, thanks to further increases in remittances from labor migrants spurred by growing wages in labor migrants' host countries. However, the number of labor migrants will remain unchanged, as Ukrainian wages

Figure 3.3.4. **Gas imports**



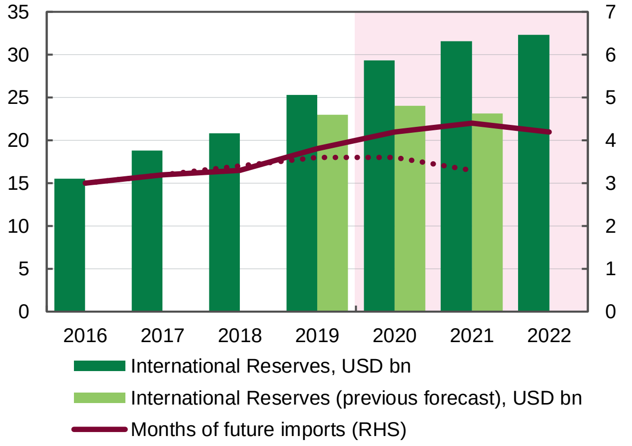
Source: NBU.

Figure 3.3.5. **Financial account: net inflows, USD bn**



Source: NBU.

Figure 3.3.6. **International reserves**



Source: NBU.

continue to converge with those in Eastern European countries.

Net financial account inflows will finance the current account deficit

The NBU expects that a new IMF program will be signed in early 2020, which will enable Ukraine to receive related official financing, giving a positive signal to the business community and improving borrowing conditions on the international markets. This will also sustain nonresidents' demand for hryvnia domestic government debt securities.

Capital inflows to the private sector will also increase, as external investors' perception of Ukraine improves further. Meanwhile, households' demand for FX cash is expected to fall on the back of low inflation expectations, and due to households adapting to the free-floating exchange rate regime.

A surplus in the overall balance of payments, coupled with IMF loans, will enable the NBU to build up international reserves over the forecast horizon, despite Ukraine going through a period of peak external public debt repayments. As a result, reserves will hit 100% of the IMF's composite measure for reserve adequacy as early as 2021, rising to USD 32 billion by late 2022.

The forecast for the 2020 current account deficit was little changed on the October forecast, while the 2021 deficit forecast has been revised upward. The trade deficit will widen in 2020–2021, driven by a rise in consumer and investment imports due to the effect of a stronger exchange rate. Gas transit volumes and remittances from labor migrants have been revised upward.

An increase in financial account inflows brought about by investors' improved perceptions of Ukraine was the main reason for the forecast's revision. Both the private and government sectors are expected to generate larger capital inflows, thanks to nonresidents' higher interest in hryvnia domestic debt government securities.

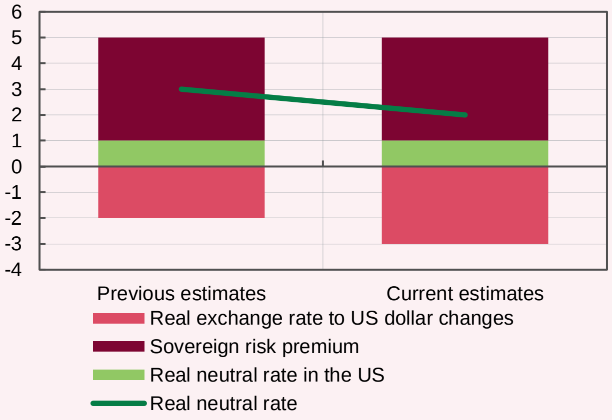
Box 5. Revised Estimates of the Neutral Interest Rate

A tight monetary policy is conducted to reduce inflation to its target, while a loose monetary policy is used to promote economic growth. Measuring the so-called neutral interest rate makes it possible to draw the dividing line between expansionary and contractionary monetary policies. The neutral rate is not a directly observable value, and is always determined with a certain degree of uncertainty. The NBU determines the neutral interest rate using its quarterly projections model (read more in Box 4 *The Quarterly Projections Model to Guide Monetary Policy Decisions* on page 43). The NBU has revised downward its estimates of the medium-term nominal neutral rate in Ukraine, from 8% to 7% per annum. The reason for this was an upward revision in the estimated strengthening in the equilibrium real exchange rate of the hryvnia.

Although the neutral rate is not a directly observable value, it is a very important indicator in analysis and forecasting, as the NBU will aim to bring its key policy rate to this same level. In the medium-term, the effects of current economic shocks wear off, with inflation at its target level.

The neutral rate is determined using the NBU's quarterly projections model, and is based on uncovered interest rate parity. A small open economy can finance high consumption and investment with foreign capital inflows. Therefore, the neutral interest rate in Ukraine depends on the country's attractiveness to investors. Any increases in sovereign risk premiums in Ukraine and the global opportunity cost of capital – the U.S. neutral rate of interest – will drive the neutral interest rate up.

Figure 1. Real neutral interest rate in Ukraine and its factors

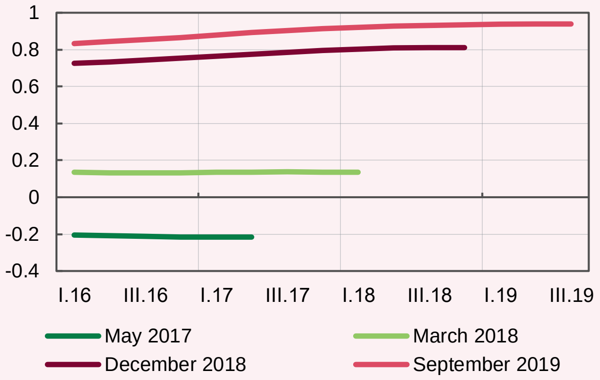


Source: NBU.

In addition, the Ukrainian neutral rate of interest has an exchange rate component. Hence, it will decrease if there is a faster appreciation of the real exchange rate. An appreciation in the real exchange rate earns investors additional profits from the higher value of domestic assets. An appreciation in the real exchange rate will also make investors willing to accept lower interest rates on domestic currency assets (because of a strengthening in the nominal exchange rate and/or higher inflation). For a detailed description of the methodology see the following article by [Anton Grui at al (2018)](#).

The NBU has revised downward its estimates of the medium-term nominal neutral rate of interest in Ukraine, from 8% to 7% per annum. With the inflation target remaining at 5%, the change in this estimate was caused by a downward revision in the medium-term real interest rate, from 3% to 2%. The latter reflected a 1 pp upward revision in the estimated strengthening in the equilibrium real exchange rate of the hryvnia.

Figure 2. Changes in estimates of the neutral rate in the U.S.



Source: Federal Reserve Bank of New York, Federal Reserve Bank of San Francisco.

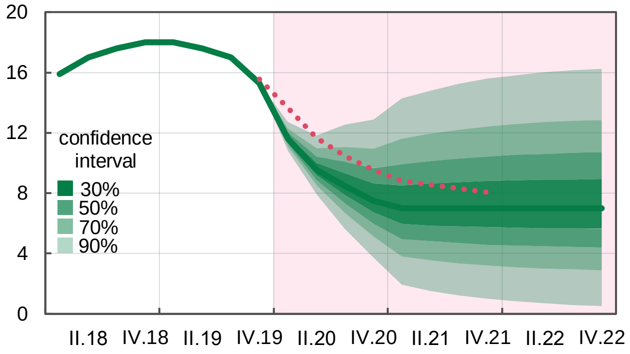
The rate of the strengthening of the equilibrium real exchange rate of the hryvnia to the U.S. dollar has been revised upward, from 2% to 3% per annum. This resulted from revised estimates of the historic trajectory of the equilibrium exchange rate (a trend in the NBU's quarterly projections model). According to the updated calculations, the real exchange rate was undervalued in 2017–2018. At the same time, the structural characteristics of the Ukrainian economy are consistent with a stronger equilibrium exchange rate and its more rapid strengthening over the forecast horizon.

Estimates of the neutral interest rate are updated regularly to factor in new data, which could result in significant revisions of this rate. Among other things, estimates of the Ukrainian real neutral rate take into account the U.S. neutral interest rate, which is measured by the Federal Reserve Bank of New York on the basis of the Laubach-Williams model (2003). Estimates of the U.S. real neutral rate have been subject to significant revisions in recent years.

3.4. Monetary Conditions and Financial Markets

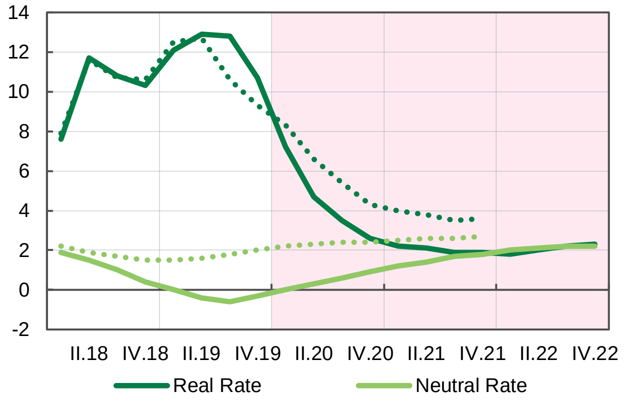
- Further cuts in the key policy rate in 2020 to its neutral level of 7% will ease monetary conditions, while keeping inflation close to its 5% target.
- The hryvnia REER will be relatively stable in 2020–2022, amid low inflationary pressure and an eased monetary policy.
- A considerable liquidity surplus in the banking system will be supported by the NBU's FX purchases to replenish international reserves, including on the back of nonresidents' sustained demand for hryvnia domestic government debt securities.

Figure 3.4.1. Key policy rate, average, %



Source: NBU staff estimates.

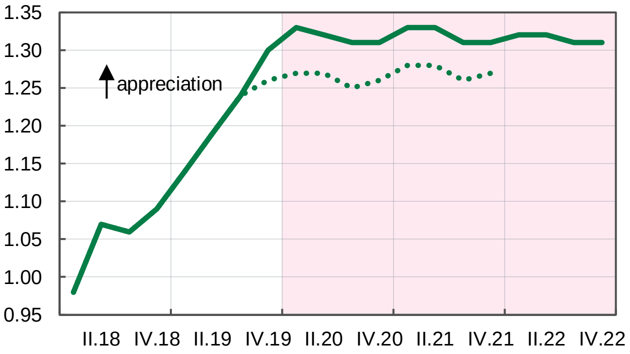
Figure 3.4.2. Real interest rate*, %



* Deflated by inflation expectations that are based on the Quarterly projection model.

Source: NBU staff estimates.

Figure 3.4.3. Hryvnia REER index, IV.2017=1



Source: NBU staff estimates.

Key policy rate cuts will help bring inflation back to its target, ramp up lending, and speed up economic growth

Monetary policy will be eased more quickly than anticipated before – the key policy rate is expected to be decreased to 7% by the end of 2020. The most pronounced cuts in the key policy rate are expected to take place in H1 of 2020. This will enable the NBU to bring inflation back to its 5% target. With some lag, this will lead to further decreases in loan rates for businesses and households, thus stimulating economic activity.

Bank lending is expected to revive gradually, driven by lower loan rates and decreased inflationary pressures. That said, a pick-up in lending requires measures to address high institutional risks, and a reduction in the percentage of non-performing loans, as envisaged in the Strategy of Ukrainian Financial Sector Development until 2025.

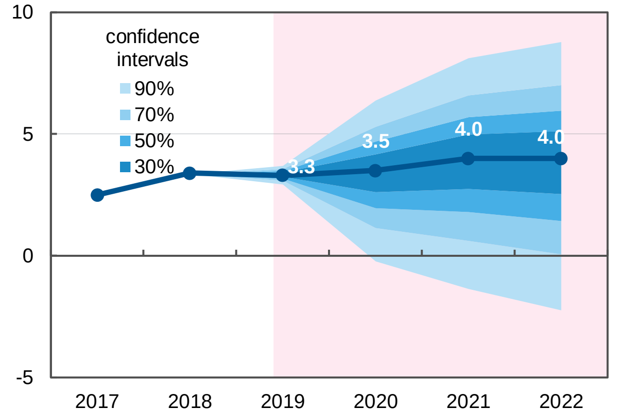
Estimates of the neutral real interest rate have been revised downward, to 2% in real terms, as estimates of the strengthening of the equilibrium real exchange rate of the hryvnia were revised upward (read more in Box 5 *Revised Estimates of the Neutral Interest Rate* on page 47). Therefore, the nominal neutral rate is estimated to be 7% in the medium-term, and the NBU will aim to bring its key policy rate close to that level.

An eased monetary policy will help contain appreciation pressures, while maintaining inflation at its target level will stabilize the hryvnia REER in 2020-2021 following its rapid strengthening in 2016–2019. A large liquidity surplus is expected to persist in the banking system, mainly due to the NBU's FX purchases to replenish international reserves. This surplus will be partly offset by an increase in cash in circulation, and the government's FX purchases to repay external debt.

3.5. Risks to the Forecast

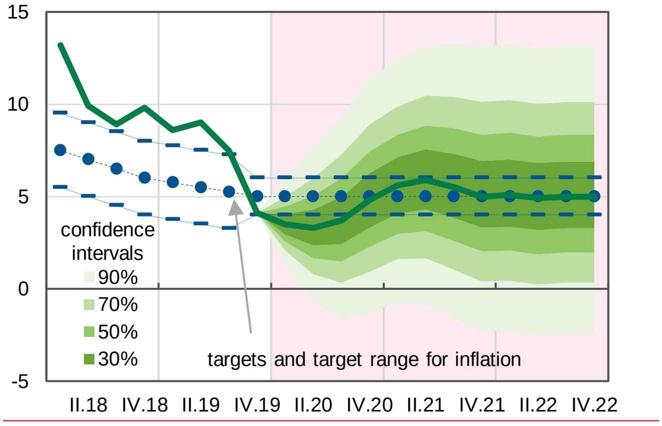
- Any delay in entering into a new cooperation program with the IMF and increased threats to macrofinancial stability are the key risks to the forecast. Risks to macrofinancial stability could mainly arise from Ukrainian court rulings on the responsibility and liability of the former owners of insolvent banks to the state.
- If materialized, these risks could worsen exchange rate and inflation expectations, and make it harder for Ukraine to access the international capital markets in order to repay the heavy debt load of the coming years.

Figure 3.5.1. Real GDP forecast, % yoy



Source: NBU staff estimates.

Figure 3.5.2. CPI forecast and inflation targets, % yoy



Source: NBU staff estimates.

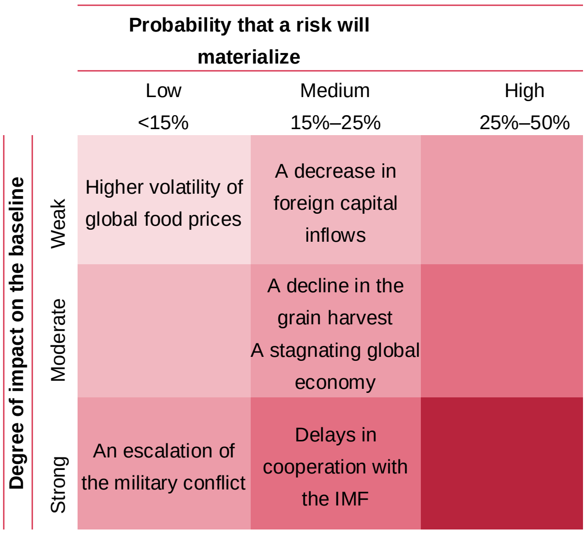
The forecast is given in a fan chart. This chart type is used to illustrate uncertainty with regard to predicted future values. For instance, the probability that the inflation rate will be in the range of the darkest shaded area in the chart (around the central line) is 30%. The same applies to other chart areas, implying the 90% probability that the inflation rate will be in the range of the lightest shaded area.

A major external risk could arise from the continued weaker growth in the global economy, due to, among other things, the spread of the novel coronavirus (read more in Box 6 *Risks to the Global Economy Posed by the Spread of the New Coronavirus* on page 51), and a consequent deterioration in terms of trade for Ukrainian producers. Despite the positive news that the trade conflict between the United States and China, which was regarded as the main drag on global economic growth, is abating, there are rising risks of an economic slowdown in the rest of the word due to Chinese demand refocusing on U.S. goods. Under this scenario, global demand for Ukrainian products will slump, bringing an adverse impact on the balance of payments, which will be intensified by falling commodity prices. Accordingly, the NBU will conduct a tighter monetary policy to obviate undue inflationary pressures, which could arise from a weakening in the hryvnia exchange rate on the back of decreased FX supply from exporters.

The scenario that envisages a pronounced drop in the harvest of grain and fruit and vegetables in Ukraine in the wake of adverse weather (which could affect the entire Black Sea region), would see the generation of pro-inflationary risks and risks of slower economic growth. If such risks materialize, GDP growth will decelerate, dampened by declining agricultural output. A rise in export prices will somewhat offset a drop in the volumes of grain exports. Nevertheless, a decrease in export proceeds will be accompanied by depreciation pressures on the hryvnia exchange rate and, consequently, inflation. Moreover, since the Black Sea region countries are market makers on the global grain market, a respective supply shock will create inflationary pressures in Ukraine because of a rise in global food prices. Higher food prices and imported inflation will push inflation up in Ukraine. The monetary policy response will balance the need to reduce inflationary pressures against the need to minimize the loss of economic growth.

There remain risks of an escalation of the military conflict in eastern Ukraine and new trade restrictions introduced by Russia. Risks arising from the military conflict could make the country significantly less attractive to investors, and markedly worsen the expectations of all economic agents. Conversely, any progress achieved in reestablishing Ukrainian control over the temporarily occupied areas will noticeably improve Ukraine's investment climate, while also decreasing risk premiums in the country.

The higher volatility of global food prices due to climate change (and anomalous weather/natural calamities occurring in some parts of the world) could also affect prices on the



		Probability that a risk will materialize		
		Low <15%	Medium 15%–25%	High 25%–50%
Degree of impact on the baseline	Weak	Higher volatility of global food prices	A decrease in foreign capital inflows	
	Moderate		A decline in the grain harvest A stagnating global economy	
	Strong	An escalation of the military conflict	Delays in cooperation with the IMF	

local market. Since food accounts for a considerable share of the CPI's basket, this could lead to temporary (lasting several quarters), but significant deviations of headline inflation from its target. The monetary policy response will depend on how strong a particular supply shock is, and to what extent it could potentially worsen expectations.

There remain risks of both a decrease and an increase in foreign capital inflows resulting from changes in investors' perceptions of Ukraine. Among other things, these risks could arise from the speeding-up of, or delays in, the implementation of the reforms that have been declared by the government. This will affect Ukraine's growth potential both in 2020 and in the medium-term, as well as the prospect of continuing cooperation with the IMF.

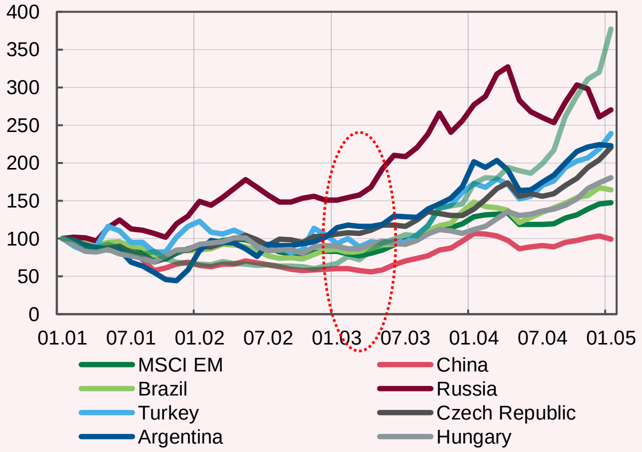
Box 6. Risks to the Global Economy Posed by the Spread of the New Coronavirus

At the beginning of the current year, the world was shaken by the rapid spread of atypical pneumonia caused by the Wuhan coronavirus. Outbreaks caused by similar viruses have occurred before (in 2003, 2012 and 2015). However, the rapid spread of the virus and the unprecedented security measures, involving lockdowns of entire multi-million population cities, have intensified panic on the global commodity and financial markets. Going by previous experience and how quickly the Chinese government is taking measures in response to the virus, the effect of the outbreak on both the global markets and the global economy is expected to be short-lived. The virus will only have a marginal effect on the Ukrainian economy and the attractiveness of emerging market assets, including the Ukrainian ones, to international investors. However, there is a risk that the virus outbreak could have a longer-lasting effect on the global economy, which could have a stronger impact on the Ukrainian economy, due to less favorable conditions on the global financial markets in a year when Ukraine is going through peak external debt repayments.

The coronavirus outbreak in China and the spreading of the virus to other countries created panic on the global commodity and financial markets. As a result, the prices of some commodities, such as oil and iron ore, dropped by 10 to 15% over a week (from 24 January through 31 January), with China's stock indices falling by 7% to 12%. These falls were mainly caused by stronger negative expectations of a slowdown the Chinese economy on the back of a narrowing in external demand for Chinese goods and a decline in domestic consumption. Other factors that dragged prices down were the Lunar New Year celebrations in China – a period when stock and commodity exchanges operate fewer hours or close altogether, and profit-taking by traders after stock indices hit historical highs.

Pandemics usually have only a temporary effect on the global markets, as seen from previous disease outbreaks. According to expert estimates, global GDP dropped by about USD 40 billion, or by 0.1 pp of global GDP, due to the spread of SARS in 2003. The global financial and commodity markets also recovered reasonably quickly. In April 2003, when the SARS outbreak was in full swing, Brent oil prices dropped by 17% mom, with ferrous metal prices, which responded with some lag, falling by about 4% mom in May and June. After that, prices for these commodities stabilized, and even grew over the next year.

Figure 1. MSCI dynamics of selected EMs in 2001–2004, Jan 2001 = 100



Source: Refinitiv Datastream, NBU staff estimates.

Going by previous experience, the speed of the Chinese government's response, and the unprecedented measures China is taking to contain the viral infection, one can expect that the outbreak of the novel coronavirus will also have a short-lasting effect on the global economy and the global markets. The Chinese economy is expected to be hit the most, especially in Q1 of the current year. Decreased domestic consumption and demand from China will also affect the global economy – mainly the services sectors (tourism, trade, and entertainment). However, these negative effects will be offset in the coming quarters by an economic recovery that will be propped up by the expansionary actions of the Chinese government and the central bank, which have already taken some action in order to boost domestic demand and to minimize temporary restrictions on external trade. Under this scenario, these developments will only have a weak effect on the Ukrainian economy and the attractiveness of the assets of emerging markets, including the Ukrainian ones, to international investors.

That said, the risk that the spread of the virus will have a longer-lasting effect cannot be entirely ruled out. A significant decline in global demand, largely from China, will push down global prices – mainly steel and iron ore prices. In view of the scale of the Chinese economy, its involvement in global trade and global value chains, the effects of weaker demand will be amplified by supply-side effects that will have a negative impact on the manufacturing sector. With continued weakness in the manufacturing sector, the sector is likely to recover from a sharp decline in business activity only with a considerable lag. This will depress external demand for Ukrainian exports. On the other hand, global energy prices will also sink more pronouncedly, which will largely offset a drop in Ukrainian exports.

In addition, global financial market conditions could have a more significant negative impact on emerging markets. Investors' revaluation of risks in light of a more significant slowdown in the Chinese economy, and in the global economy, could markedly decrease the attractiveness of the risky assets of emerging markets, even despite there being favorable financial conditions. This could make it more difficult for Ukraine to roll over its external debt, the repayment of which will peak in Q2 and Q3 2020, and lower nonresidents' demand for hryvnia securities.

All in all, the NBU believes that the impact of the coronavirus will be short-lived, and will only have a transitory effect, which will wane towards the end of the current year. However, there is still risk that the effects of the coronavirus will be longer-lasting.

Terms and Abbreviations

Core CPI	Core consumer price index
GDP	Gross domestic product
GVA	Gross value added
GFCF	Gross fixed capital formation
STSU	State Treasury Service of Ukraine
CD	Certificate of deposit
SESU	State Employment Service of Ukraine
SSSU	State Statistics Service of Ukraine
SFSU	State Fiscal Service of Ukraine
STA	Single Treasury Account
EU	European Union
ECB	European Central Bank
FX	Foreign exchange
BOI	Business outlook index
CPI	Consumer price index
IT	Information technology
CMU	Cabinet of Ministers of Ukraine
QPM	Quarterly Projections Model
IMF	International Monetary Fund
ILO	International Labour Organization
MY	Marketing year
MFU	Ministry of Finance of Ukraine
MHP	PJSC Myronivsky Hliboproduct
NJSC	National Joint-Stock Company
NBU	National Bank of Ukraine
NEER	Nominal effective exchange rate
NFC	Nonfinancial corporation

OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
MTP	Main trading partner
PJSC	Public Joint-Stock Company
VAT	Value-added tax
PIT	Personal income tax
FDI	Foreign direct investment
CIT	Corporate income tax
REER	Real effective exchange rate
Russia	Russian Federation
U.S.	United States of America
Fed	Federal Reserve System
CEE	Central and Eastern Europe
ECPI	External Commodity Price Index
EM	Emerging markets
EMBI	Emerging Markets Bond Index
IIF	Institute of International Finance
PMI	Purchasing Managers' Index
UAwCPI	Weighted average of Ukraine's MTP countries' CPI
UAwGDP	Weighted average of annual GDP growth of Ukraine's MTP countries
UIIR	Ukrainian Index of Interbank Rates
USDA	United States Department of Agriculture

m	million
bn	billion
UAH	Ukrainian hryvnia
USD	US dollar
bp	basis point

pp	percentage point
bbl	barrel
yoy	in annual terms; year-on-year change
qoq	in quarterly terms; quarter-on-quarter change
sa	seasonally adjusted
mom	in monthly terms; month-on-month change month-on-month
RHS	right-hand scale

Macroeconomic forecast (January 2019)

Indicators	2016	2017	2018	2019						2020						2021						2022				
				I	II	III	IV	current forecast	forecast 10.2019	I	II	III	IV	current forecast	forecast 10.2019	I	II	III	IV	current forecast	forecast 10.2019	I	II	III	IV	current forecast
REAL ECONOMY, % yoy, unless otherwise stated																										
Nominal GDP, UAH bn	2385	2984	3559	808	928	1106	1134	3975	4020	868	996	1193	1233	4290	4420	946	1087	1303	1347	4682	4850	1033	1187	1422	1470	5113
Real GDP	2.4	2.5	3.4	2.5	4.6	4.1	2.2	3.3	3.5	3.5	3.1	3.5	3.8	3.5	3.5	3.9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
GDP Deflator	17.1	22.1	15.4	11.7	9.4	6.8	4.2	8.0	9.2	3.8	4.1	4.4	4.7	4.3	6.2	4.9	5.0	5.0	5.0	5.0	5.5	5.0	5.0	5.0	5.0	5.0
Consumer prices (period average)	13.9	14.4	10.9	-	-	-	-	7.9	8.3	-	-	-	-	3.6	5.6	-	-	-	-	5.5	5.2	-	-	-	-	5.0
Producer prices (period average)	20.5	26.4	17.4	-	-	-	-	4.1	6.2	-	-	-	-	-3.5	7.7	-	-	-	-	4.9	7.6	-	-	-	-	5.0
Consumer prices (end of period)	12.4	13.7	9.8	8.6	9.0	7.5	4.1	4.1	6.3	3.5	3.3	3.7	4.8	4.8	5.0	5.6	5.9	5.5	5.0	5.0	5.0	5.1	4.9	5.0	5.0	5.0
Core inflation (end of period)	5.8	9.5	8.7	7.6	7.4	6.5	3.9	3.9	5.3	3.1	2.8	2.7	3.5	3.5	3.7	4.0	4.0	3.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Non-core inflation (end of period)	17.5	19.4	10.7	10.0	11.7	9.4	4.8	4.8	8.3	3.9	3.6	4.9	6.4	6.4	6.8	7.5	8.1	7.7	6.7	6.7	6.5	6.6	6.1	6.3	6.5	6.5
raw foods (end of period)	1.2	23.5	3.3	3.6	7.8	8.6	3.9	3.9	7.2	2.0	2.6	2.0	3.8	3.8	3.5	5.0	5.7	4.6	3.0	3.0	3.0	3.4	2.9	2.9	3.3	3.3
administrative prices (end of period)	34.6	16.1	18.0	18.7	17.0	14.1	8.6	8.6	11.7	7.5	7.0	8.5	9.3	9.3	10.0	9.5	10.1	10.1	9.8	9.8	9.8	9.6	9.4	9.3	9.1	9.1
Producer prices (end of period)	35.7	16.5	14.2	8.9	4.5	1.7	-7.4	-7.4	5.8	-6.3	-2.3	-3.0	5.4	5.4	7.3	4.9	4.5	4.9	5.1	5.1	7.0	5.0	5.0	5.0	5.0	5.0
Nominal wages (period average)	23.6	37.1	24.8	20.8	18.8	18.4	16.3	18.5	18.2	15.2	13.0	10.5	10.2	12.1	12.0	10.3	10.3	9.9	9.9	10.1	9.3	9.6	9.5	8.9	8.8	9.2
Real wages (period average)	9.0	19.1	12.5	10.9	8.6	9.0	10.5	9.7	9.2	11.2	9.7	6.7	5.6	8.2	6.0	4.6	4.4	4.2	4.6	4.5	4.0	4.3	4.3	3.7	3.6	4.0
Unemployment (ILO)	9.3	9.5	8.8	-	-	-	-	8.3	8.4	-	-	-	-	8.3	8.3	-	-	-	-	8.2	8.2	-	-	-	-	8.2
FISCAL SECTOR																										
Consolidated budget balance, UAH bn	-54.8	-42.1	-67.8	-	-	-	-	-84.3	-80.2	-	-	-	-	-85.4	-90.6	-	-	-	-	-92.6	-89.7	-	-	-	-	-101.2
% of GDP	-2.3	-1.4	-1.9	-	-	-	-	-2.1	-2.0	-	-	-	-	-2.0	-2.0	-	-	-	-	-2.0	-1.8	-	-	-	-	-2.0
Public sector fiscal balance (IMF methodology), UAH bn	-50.3	-37.0	-75.4	-	-	-	-	-84.3	-80.6	-	-	-	-	-84.0	-90.5	-	-	-	-	-92.3	-89.5	-	-	-	-	-100.1
% of GDP	-2.1	-1.2	-2.1	-	-	-	-	-2.1	-2.0	-	-	-	-	-2.0	-2.0	-	-	-	-	-2.0	-1.8	-	-	-	-	-2.0
BALANCE OF PAYMENTS (NBU methodology)																										
Current account balance, USD bn	-1.3	-2.4	-4.4	-0.2	-0.5	-2.2	1.8	-1.1	-4.5	-1.5	-1.5	-2.2	-0.5	-5.7	-5.7	-2.0	-2.2	-2.8	-0.8	-7.9	-7.5	-2.4	-2.1	-2.8	-0.7	-8.0
Exports of goods and services, USD bn	46.0	53.9	59.1	15.1	15.5	16.3	16.5	63.4	63.1	15.2	15.6	16.5	18.1	65.5	63.7	15.8	15.8	17.0	18.5	67.0	65.1	16.3	16.4	17.4	19.0	69.1
Imports of goods and services, USD bn	52.5	62.5	70.5	16.9	18.4	20.3	20.0	75.5	75.1	18.6	19.5	20.6	21.2	79.9	77.2	19.7	20.6	21.9	22.1	84.2	80.8	20.6	21.2	22.5	22.5	86.9
Financial account, USD bn	-2.6	-5.0	-7.2	-0.5	-0.9	-3.6	-2.0	-7.0	-7.0	-3.6	-1.4	-1.6	-2.2	-8.9	-6.4	-3.0	-3.1	-2.4	-1.0	-9.4	-6.4	-2.6	-2.9	-2.6	-0.4	-8.5
BOP overall balance, USD bn	1.3	2.6	2.9	0.3	0.4	1.5	3.8	6.0	2.6	2.1	-0.1	-0.5	1.7	3.2	0.6	1.0	0.9	-0.4	0.1	1.6	-1.1	0.3	0.7	-0.3	-0.3	0.4
Gross reserves, USD bn	15.5	18.8	20.8	20.6	20.6	21.5	25.3	25.3	23.0	27.5	27.5	27.0	29.3	29.3	24.0	29.7	31.5	30.5	31.6	31.6	23.1	31.2	32.7	31.7	32.3	32.3
Months of future imports	3.0	3.2	3.3	3.2	3.1	3.3	3.8	3.8	3.6	4.1	4.0	3.9	4.2	4.2	3.6	4.2	4.4	4.2	4.4	4.4	3.3	4.2	4.3	5.2	4.2	4.2
MONETARY ACCOUNTS (cumulative since the beginning																										
Monetary base, %	13.6	4.6	9.2	-2.8	2.1	1.2	9.6	9.6	8.1	-4.1	0.0	0.2	6.1	6.1	6.5	-4.3	0.1	0.2	6.1	6.1	6.3	-4.4	-0.1	-0.1	5.6	5.6
Broad money, %	10.9	9.6	5.7	-1.9	0.8	2.2	12.3	12.3	8.7	-1.5	2.3	4.5	10.1	10.1	8.9	-2.1	2.6	5.0	9.5	9.5	9.2	-2.7	1.8	4.5	9.4	9.4
Velocity of broad money (end of year)	2.2	2.5	2.8	-	-	-	-	2.8	2.9	-	-	-	-	2.7	2.9	-	-	-	-	2.7	2.9	-	-	-	-	2.7